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MAY 1960

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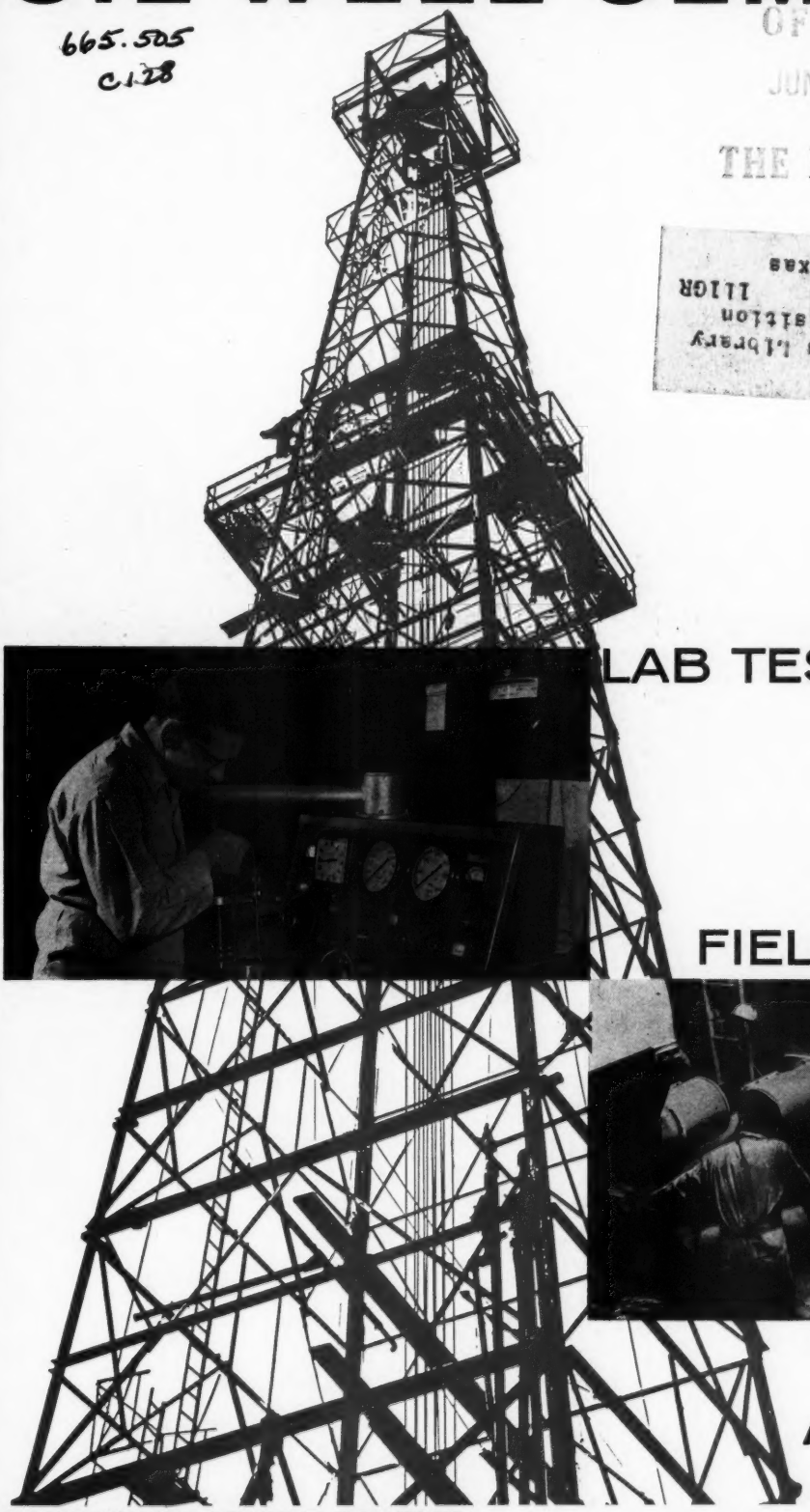
Vol. 53
No. 10

OIL WELL CEMENTS



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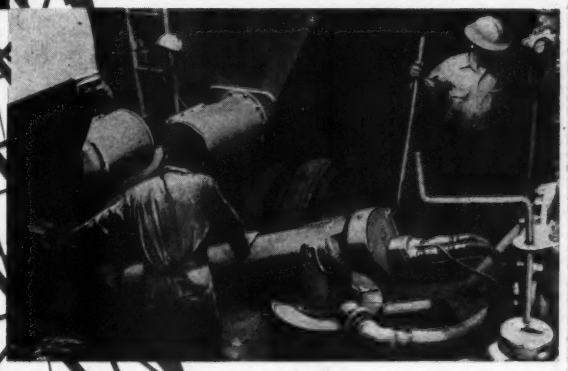

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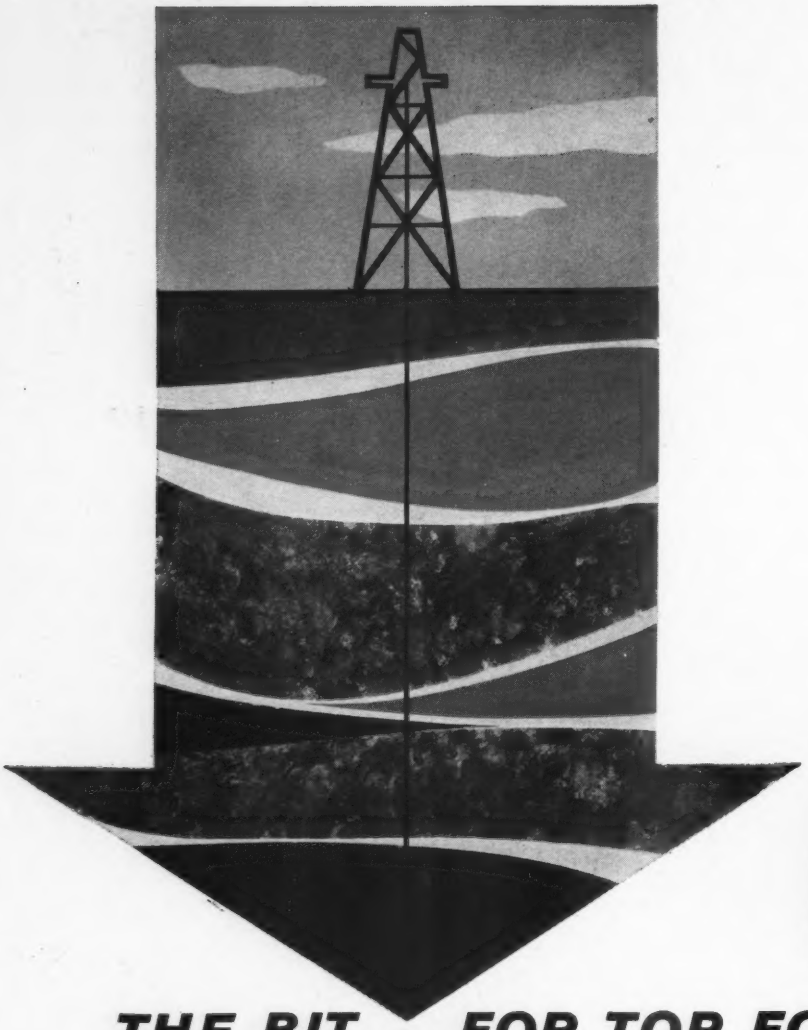

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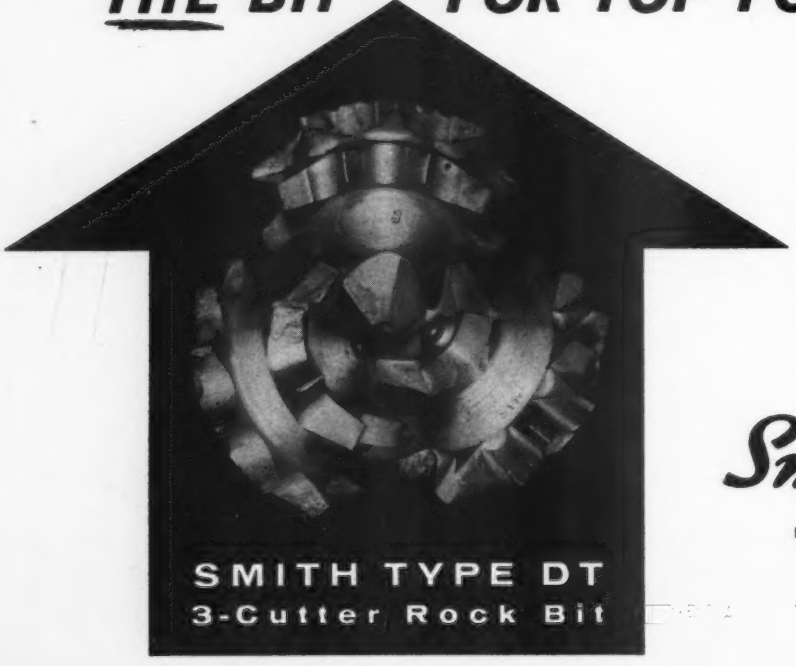

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Hydraulic Frac Job — North Tejon Field

By J. P. LAVERY, JR., Reserve Oil & Gas Company

The North Tejon Field is located in the southern end of the San Joaquin Valley or approximately 30 miles south of Bakersfield, California. The discovery well "Butler-Wehr #67-18 was drilled and completed in the Lower Miocene Vedder Sand by Reserve Oil and Gas Company in 1957. Since that time approximately 45 producers have been drilled in the field. The productivity of the individual wells varies considerably, being dependent upon the permeability of the relatively thick Vedder Sands and sandstones. In some areas the productivity of the wells also appears to be governed by the degree of natural fracturing of the sandstones. It was decided to try a hydraulic fracturing treatment in one of the wells in the eastern portion of the field. The well so chosen was a deep test well drilled under the Standard-Reserve North Tejon Operating Agreement. The wells in this area are drilled on a forty-acre spacing pattern.

Reserve Oil & Gas Co.'s Well "BWT" No. 372-20 in North Tejon field.

Well "BWT" #372-20 was drilled to 14,528′ with clay base mud. Possibly commercial production was indicated by a formation test of the Z-1 Sand, 11,875′-11,954′, which resulted in a net rise of 3,500′ of 31° gravity oil and 824′ of drilling fluid in a 3-hour period. Consideration of several alternative completion methods led to the choice of cementing solid through the zone and hydraulic frac-ing the better portions thereof. Before arriving at this decision considerable investigation was undertaken.

The Z-1 Sand had been diamond cored from 11,811′ to 12,037′. Core analysis indicated a productive capacity of 3,360 millidarcy feet. Special core analysis indicated that the average sand permeability ratio of distilled water/air was .780 versus .874 for the ratio of brine/air. Results of similar core analysis work performed by a different analyst also indicated that no swelling or significant loss of permeability occurs in fresh water or brine for the particular sand in Well 372-20. The absence of swelling clays was further confirmed by thin section analyses.

It was decided to treat the well by the Gulf frac design cutting 4 horizontal notches through the casing and into the zone, attempting to attain a desired frac radius of 150′ by pumping brine at rates of between 18 and 30 BPM (bbls. per min.). The overall probably productive interval 11,872′-11,998′ consists of two sand bodies with tight shaly sand between. It was proposed to cut three notches in the bottom 85′ stringer, allowing approximately 25′ between notches, and one notch in the middle of the top 23′ stringer. It was thought that fracturing at these approximate intervals should give optimum results.

Penetrometer tests showed that the cores from 372-20 were sufficiently hard to crush 10-20 or 20-40 mesh sand at the existing overburden pressures. Thus, the propping sand would become powdery, with resultant overall loss of permeability. It was decided, therefore, to use 8-12 mesh rounded walnut hulls, which would deform but not crush as sand would. Data indicated that an optimum concentration of 1 lb. of 8-12 mesh walnut hulls per gallon of fracture volume should yield a fracture capacity of approximately 3,100 MD feet for each notch-fracture job.

The brine used as a frac fluid and

as injection fluid to carry the propping agent was treated with a friction reducing agent at a ratio of 40 lbs. of agent per 1,000 gals. of brine. This agent, J-98, which builds viscosity, increases gel strength and shear factor, prevents turbulent flow by creating laminar flow thereby reducing friction. Reduction of friction loss allows more effective pressure against the injection point per pound per square inch of pressure exerted at the surface. This friction reducing material was developed and proven by Dowell in numerous tests through field line pipes.

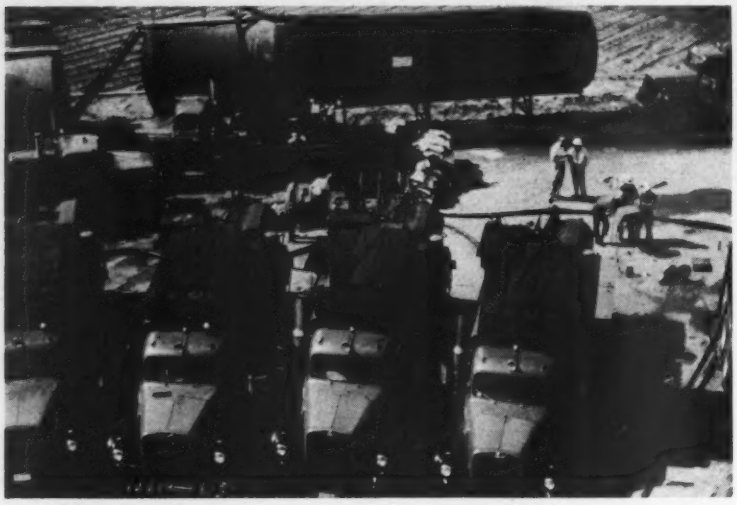
Another reason for using water rather than oil as a frac fluid was the ability to operate at extremely high pressure with much less fire hazard.

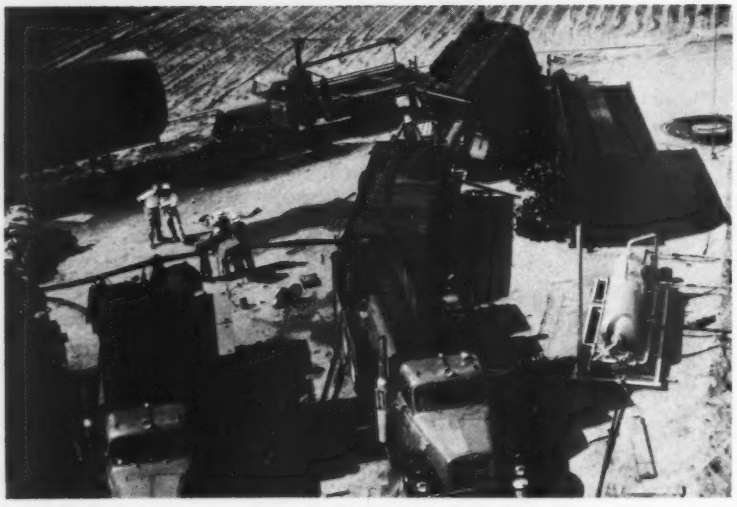
Casing was cemented at 12,800' with cement filling the annulus to the surface. The casing was cleaned out to 12,725' with a 6" bit. A Gamma Ray Neutron log was run for depth control and a cast iron bridge plug was set at 12,098'. The drilling fluid was changed over to brine of approximately 1,800 grains per gallon salinity.

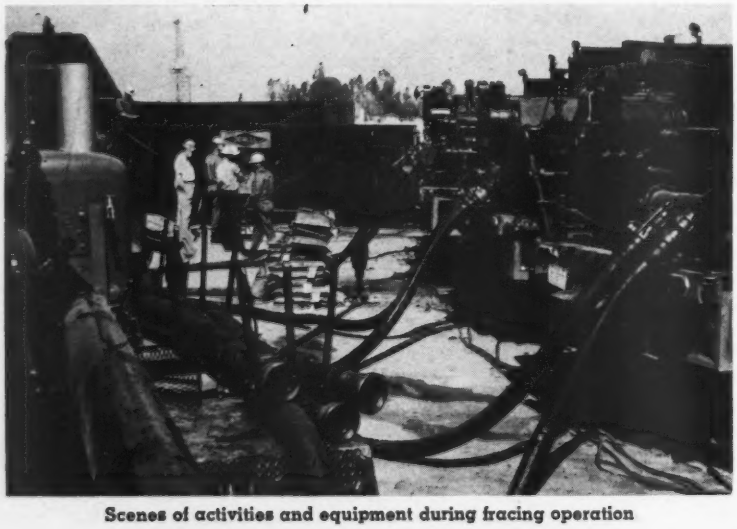
Three portable 500 bbl. tanks were placed on location and filled with brine. Dowell Division of the Dow Chemical Co. moved in 6 Allison equipped pump trucks, 1 diesel pump truck, 1 tank, and 2 blenders. Lines from pump trucks to well head were hooked up and checked.

On March 30, 1960 a 3" O.D. two stage Abrasijet was run on 3½" drill pipe to 11,980' and at 5-7 RPM a mixture of 5# of J-98 Gel and 1,000# of 20/40M Ottawa sand per 1000 gallons of brine was jetted at 4.5 BPM at 3,500 psi for 1 hour; stopped rotation 5 BPM at 4,000 psi for 20 minutes. Backscuttled clean from 11,980'. Pulled several stands to be clear of notch. Pumped down 7" with 6 trucks at 24 BPM at 5,350 psi; shut down, observed instantaneous shut down pressure drop to 4,700 psi; resumed pumping and injected 3,500# of 8-12 M walnut hulls at .15#-.25#/gal. brine into formation at 26 BPM at 5,100 psi. Had instantaneous drop from 5,700 psi to 4,600 psi; bled pressure down from 4,600 psi to 100 psi in 4 hours. Injected total of 935 bbls. of brine through notch #1.

The above-described process of cutting notches and injecting walnut hulls was repeated at 11,950', 11,924' and 11,884'. The sand that was used to cut each notch was allowed to fall in the casing so as to cover the previous notch and act as a sand plug during subsequent injection. After all notches had been cut and treated, the casing was backscuttled to 12,098'.







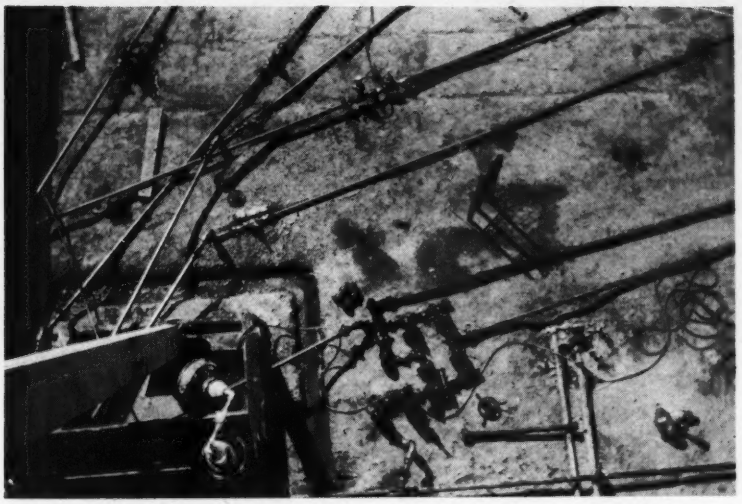
Scenes of activities and equipment during fracing operation

Ran 2½" tubing to 11,930' with a packer at 11,699'. The brine was displaced by oil at 12 noon April 4,1960. Had small flow until 5:00 P.M. Rigged up and swabbed salt water at 3-10 bbls./hr. rate. At 10:30 P.M. well started flowing approximately 22 BPM of oily salt water. At 11:00 P.M. well began flowing at an estimated 500 B/D rate, cut 92% on 74/64" bean. Turned well to tanks at 7:30 A.M. April 5, 1960, flowing 385 B/D gross rate, cut 55% through a 32/64" bean.

Initial production was 402 B/D gross, 233 B/D net, cut 42%, 32/64" bean, 160 psi/pkr., 273 MCF, 1,172 GOR. Approximately three weeks after completion the production was 224 B/D gross, 202 B/D net, cut 10%, 7/64" bean, 410 psi/pkr., 216 MCF, 1,069 GOR. Current production, i.e., 5 weeks after completion, is 308 B/D gross, 299 B/D net, cut 3%, 21/64" bean, 520 psi/pkr., 325 MCF, 1,087 GOR.

It is estimated that approximately 972 barrels of the frac fluid have been recovered to date out of the 2,839 barrels injected. No sand or walnut hulls have been observed in the produced fluids. A feeler has been run in the well through the tubing and the hole is clean to bottom, some 177' below the bottom notch. This is believed fair evidence that the propping agents have remained in place.

A pressure build up curve obtained in mid-May indicates that the well has a productivity ratio of 1.5. This means that the well produces 50% more fluid than would be considered the optimum without special stimulation. It is, of course, very rare that a well produces at its optimum indicated reservoir capacity, as zonal damage to some extent takes place during the drilling of the well. Based on the comparison of drill stem tests and subsequent completion production data of other wells in the area, it is believed that the present rate of production in Well 372-20 is several-fold than which would have been obtained without the frac treatment.



High pressure lines to wellhead together with control valves operated by remote control as shown in photos on page 2.

Record Slice of Auto Tax Earmarked for Non-Road Use

U.S. vehicle operators paid out a record ante of $8.5 billion in state and federal highway taxes last year.

Of that staggering sum, the federal government alone collected $4 billion in automotive excise taxes, an increase of $640 million over 1958, according to a recent Treasury Department report.

The Department's official figures revealed that over $1.6 billion, or nearly 43 per cent of the federal total, went to non-highway uses in the General Fund while the remainder was devoted to the Highway Trust Fund. This represents the highest automotive tax sum diverted to the General Fund in a single year since passage of the 1956 Federal Highway Aid Act.

Moreover, the amount so diverted almost equalled the $1.7 billion brought in by the federal tax on gasoline. Receipts from this levy were swelled by the imposition last October 1 of a temporary fourth cent to underwrite deficit spending in the Highway Trust Fund.

Automobile excise tax collections totalling $1.3 billion were second to the gasoline tax, and went entirely to the General Fund.

All told, 42 cents of every dollar in federal automotive excise taxes collected in 1959 was channeled into the General Fund and away from highway uses.

This is a sharp increase over 1958, when 37 cents of each automotive tax dollar was diverted to non-highway spending.

The States Too

According to the Department of Commerce, another $4.5 billion in highway-user taxes was collected by the states in fiscal 1959.

In addition to their general taxes on income and property, motorists paid $3 billion in state motor fuel taxes, while $1.5 billion came from registration fees and other highway levies.

The state figures represent over 28% of total state government tax receipts in 1959, making highway-user levies the second most lucrative of all state revenue sources.

With an estimated 70 million vehicles traveling our highways, the average federal and state highway-user tax burden amounts to about $121 per vehicle per year.

Transwestern Pipe Line

Seven miles north of Needles, California, the vital link has been completed between two sections of a new transmission line which, when operative by midsummer, will deliver an additional 300 million cubic feet of natural gas daily to southern California.

The link is 1,458 feet of 24-inch-diameter pipe which will connect the pipeline of Pacific Lighting Gas Supply Co., Los Angeles-based natural gas storage and transmission subsidiary of Pacific Lighting Corp., with that of Transwestern Pipeline Co.

Work on a second 24-inch-diameter pipeline crossing was due to get under way immediately. Meanwhile construction continues on both ends of the pipeline. P.L.G.S. is over 50% complete on the field work connected with its 34-inch-diameter line from Needles to Newberry in California's Mojave Desert; and Transwestern is more than 90% along on its 1,300-mile mainline system which will pick up the gas from Texas and Oklahoma producing fields for delivery at the California-Arizona border.

Petroleum LORE and LINGO

By RICHARD SNEDDON

Popularity of Natural Gas

The growth of the natural gas and gasoline industry since its inception in the early 20's has been nothing short of phenomenal. Consumption of gas has expanded far beyond the proportionate increase that might have been expected to follow a pyramiding population rise. In addition to the normal home and factory use for heat and power, it is daily being employed more and more in new industrial processes, among them the synthesis of many new and interesting petrochemicals. There are inherent and strongly justifiable reasons for the popularity of natural gas in the home. It is clean, adaptable, available instantly and always, it presents no storage problem, and it leaves no residue. The transmission companies relieve their customers of the need for storage facilities by keeping the commodity in the delivery lines under a light, evenly regulated pressure, so that when the housewife turns on a burner at the kitchen stove, gas flows gently, ignites quietly, and burns steadily.

Boom Times

And what a blessing is that simple device, the pilot light! I can remember in the so-called "good old days" when, before lighting a stove or a furnace, it was distinctly advisable to say good-bye to your friends. There was usually enough pressure on the line to blow out matches one after another until the place was littered with them. Then, by way of adding to the excitement, the accumulation of gas around the apparatus suddenly exploded, administering an impromptu singe that, if it did nothing for the appearance, at lease eliminated the necessity of a haircut on the following Saturday night.

Elasticity

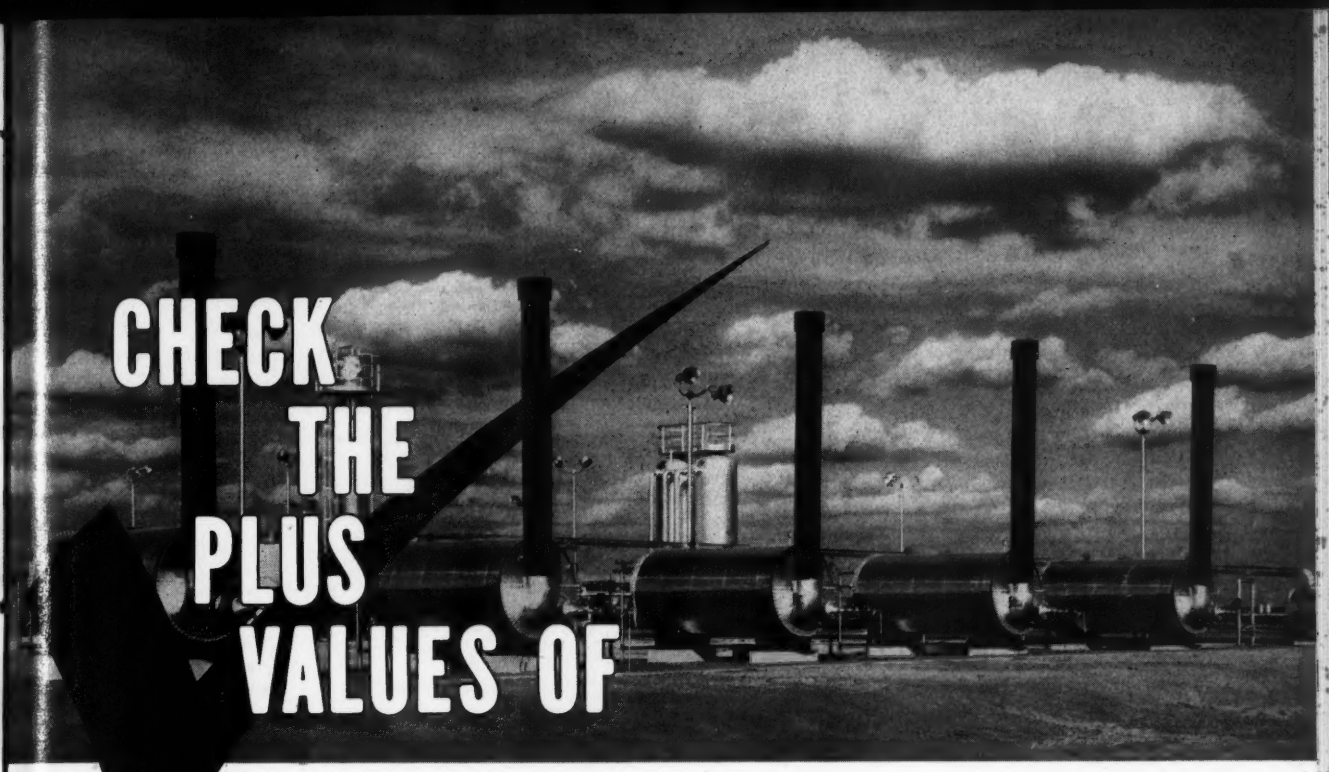
Natural gas is an elastic substance of which a large volume can be compressed into a very small place and when it is thus compressed at reasonable low temperature, the heavier components are liquefied. For this reason the lines that carry the gas from the separator traps in the field to the gas plant are equipped with drip boxes or pots in which this condensate gathers. It is really excellent blending material for aviation or automotive gasoline, and it didn't take long for some field workers to recognize it as a convenient source of supply. In certain areas it was at first permissible to use it for company cars but when the practice was seen to be hazardous, and irrational for other reasons, it was officially stopped. The more unscrupulous ones, however, still continued to fill their tanks with these "gas line drips" and since it was customary to perform the theft in the small hours, the stuff became quite generally known as "midnight ethyl." Finally in an effort to stop further depredations, the drip pot valves were locked but meantime the hot rodders had discovered that the drips were good for running their souped-up jalopies, and it is not uncommon still to find that pots in the more isolated areas have been jimmied open and the contents devoted to that exhilarating pastime, termed "the drag."

The Wide Applications

Natural gas, when it has been stripped of its liquefiable components, consists largely of methane, ethane, with propane and butane also present in very small quantity. It contains small concentrations of other important gases which will be referred to later but for the moment we may assume that the hydrocarbons mentioned are its main constituents. The uses of even the crude gas are endless. It has become one of our most prolific sources of thermal energy; is growingly popular as a refrigerant; and has many important applications in agriculture. Californians are familiar with the fact that the hydrogen content of natural gas is now segregated and made to combine with the nitrogen in th atmosphere to form ammonia (NH_3), and thence is the source of anothe product of nitrogen, urea. Both c these are nutrients that enrich starv ing soil immeasurably and multi ply crop yields in an altogethe amazing way. So great is the avidit of the earth for these nitrogenou compounds that ammonia gas ca be injected into the ground an inc or so from the surface and hardly a vestige of it escapes into the air. I remember looking over an ammonia plant just a few days after its completion. The approaches were cov ered with asphalt but already the greenest green grass I ever saw was crowding its way up through every tiny surface fissure in strong looking tufts.

Uses of Hydrogen

Hydrogen, of course, has many other uses besides that of being a reagent in the manufacture of fertilizers. In liquid form it is a powerful propellant for space craft. It has application in the making of explosives, photography, dyes, celluloid, drugs, insecticides and, indeed, is one of the starting components of a wide variety of petrochemicals. It is also employed by the steel industries for reducing ores and releasing the metals that are locked up in them as oxides. Incidentally, there has recently been developed a method of recovering hydrogen and the lighter hydrocarbons from heavy petroleum or petroleum fractions by the simple expedient of furnishing enough oxygen to burn off most of their carbon. How this is done without burning the hydrogen which is terrifically inflammable stuff I haven't found out, but it involves some sort of controlled reaction, without using a catalyst, at a temperature in the vicinity of 2000 degrees and a pressure of about 4000 lbs. per square inch, so it is not the type of experiment that belongs in the "do it yourself" category. The main advantage of the process is that it provides a means of furnishing the essentia



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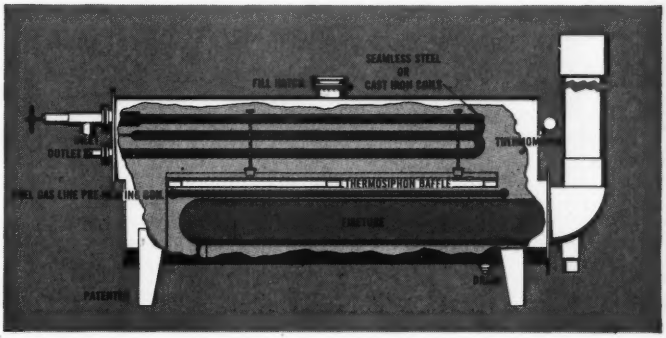

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The demand for L. P. G. is mounting rapidly and economic prognosticators tell us that by 1965 the United States will need 10 billion gallons annually. Approximately 10 million homes beyond the reach of the gas mains now use it for cooking and heating. In addition to these, it is used widely on farms as tractor fuel, and as the power medium for irrigation pumps. It aids in such farm chores as curing hay and tobacco; sterilizing milk; warming chicken and pig brooders; keeping frost off citrus fruits; and killing weeds. The two gases of which it is largely composed, propane and butane, are liquefied at 190 p.s.i. and 45 p.s.i., respectively. This simplifies the handling problem because it is transported and delivered in liquid form, in cylinders, tank cars, and even tankers, and as the pressure is released at the point of use, it reverts again to the gaseous form.

Synthetics & Storage

Butane is an important part of today's high octane fuels and is much in demand by the rubber and chemical industries. Propane is a vital building block in the petro chemical business, and both are prime enrichers of natural and manufactured gas. Since L.P.G. is largely used for heating, it is required in much greater volume in the winter than in summer. This presented quite a problem at first but it was solved very satisfactorily by resort to huge, closed, underground reservoirs, as, for example, depleted oil zones. In California several of these are now in use. They enable the gas companies to store sufficient supplies during the warm season to take care of the peak demand in winter. In the middle-west and eastern areas, a popular type of storage cavern is the salt dome, a rather common form of geological anticline that can be leached out ordinarily to sizable dimension at low cost. However, any kind of a closed and inert structure that is porous, and able to hold enough gas, will do for this purpose.

Bus and Truck Fuels

It is to be noted that a considerable number of eastern and midwestern cities have changed municipally owned buses over to L.P.G. from diesel and even gasoline with distinctly beneficial results. The claim is made that the noxious odors that are commonly emitted by diesel buses and trucks are completely absent when L.P.G. is used. This sounds rational since the lighter hydrocarbons would be much more completely consumed. In any case, the shift was made in one large metropolitan city some ten years ago and so far as I have been able to learn, the experience record is so satisfactory from all angles that the program has been constantly expanded. The large fleet owners have adequate storage facilities; refueling can be done just as fast and just as safely as with conventional fuels; and mileage costs are apparently lower.

Also Present

The natural gasoline which consists mostly of pentane and heavier hydrocarbons is specifically used either as a blending material for aviation and automotive fuels, or as a base stock for some of the reforming operations that go on in the refinery. However, going back to the fixed gases, it will be remembered that reference was made to "other substances," more or less extraneous, that sometimes, are found allied with the methane and ethane that constitute the bulk of natural gas. One of these led to a distinctly embarrassing episode in the history of a little town in Kansas, named Dexter. The story has been told many times but it fits very aptly here and perhaps will bear retelling.

The Dexter Story

It happened in 1907 that a well had been drilled some little way from Dexter and had been completed as a gasser. Prior to this time the citizens of the little village like a great many others had to depend on the kerosene lamp for lighting up the evening hours, and the prospect of merely turning on the gas thenceforth created a great deal of excitement. A pipe line was laid to bring the gas to town and a great civic program was planned to celebrate the occasion. People from miles around gathered at the terminus of the line to witness the lighting of the gas. After all the pretty speeches had been concluded and the audience had been thoroughly informed on the great benefits that would redound to present and future citizens through this acquisition of natural gas, one of the officials turned on the gas and with due ceremony applied the torch. But it didn't light. The gas was there all right, it could be heard hissing from the line when the valve was opened, but to the embarrassment of all assembled it just wouldn't burn.

It Was Helium

Samples were taken and sent to the University of Kansas for examination, and some time later the bewildered people of Dexter were informed that what they had really discovered was a helium well. They didn't get their lighting system but they initiated a project that has since had some very startling developments. A helium plant was built in the area and in the meantime physicists all over the world have been experimenting with this strange gas which, next to hydrogen, is the lightest of all elements. It was first discovered on the surface of the sun by a young, self educated Britisher, named Joseph Norman Lockyer who designed a combination spectrascope and telescope through which he could examine the fiery emanations that were known to envelop the sun. In his analysis he found one substance that was obviously different from anything then known to science. This he named "helium" which is derived from the Greek word for sun, helios. Since then it has been learned that helium is widely diffused throughout the earth. It is probably present in all natural gas to some extent; is present also in the atmosphere; and has been found in rocks and minerals of great variety.

Some Inside Stuff

Its chemical symbol is "He" and

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it has some very interesting properties. In the first place as the Dexter experience proved, it will not burn, and it has turned out to be an excellent lifting medium for the so-called "lighter than air" ships. Indeed, during the last war it enabled the United States to muster a sizable fleet of dirigibles which did yeoman service as submarine spotters. Prior to that time, Germany was responsible for most of the expansion in the development of the navigable balloons, but their Zeppelins relied for lifting power on highly inflammable hydrogen, and it will be remembered with what disastrous results.

Structural Usage

By the time the second world war came along, helium was being produced in pretty substantial quantity, and it found a new use in the structural field that was of immeasurable value. It was discovered that when the inert gas was employed to shield the operation, the metal magnesium could be bonded. This is a very light metal which was ideal for the building of planes, and thenceforth the fighting craft of the United States Airforce were fabricated of magnesium, giving them greater carrying power, longer range, and many other advantages. Subsequently it was determined that the welding of other metals such as aluminum, copper and titanium, could be more solidly and permanently welded when the arc was similarly shielded with helium. Needless to say this has affected many industries.

Absolute Zero

But it is really through a new science, called "cryogenics" that some of the most exciting helium news is being broadcast. It was previously pointed out that at absolute zero which is—273° on the Centigrade scale and—460° Fahrenheit, all internal or thermal motion ceases and all matter becomes completely quiescent. Now, all the deliberating on this strange area of scientific invasion has been largely theory up to comparatively recently, but with the liquefying of helium gas which is now a reality we can produce temperatures in the close proximity of absolute zero and the study of effects produced when ordinary substances are exposed to this practically heatless condition for varying lengths of time is still in its infancy but the promise is tremendous.

Effect Of Icy Cold

In the chapter on the chemistry of petroleum, mention was made of a hypothetical element or grouping of elements, known as a "radicle" which cannot exist by itself but is nonetheless presumed to have a fleeting existence when interaction takes place between two chemical substances. To make this clearer, the formula for ethane, the second member of the paraffine series of hydrocarbons, is $C_2 H_6$. Now if we take away one hydrogen atom from this ethane and substitute an OH or hydroxyl radicle, we have ethyl alcohol or $C_2 H_5$. OH. That is two radicles joined together to form a completed substance. There is some hydrogen left over, of course, as you can find by adding the symbols. But the point we wanted to make here is that nobody has ever seen a radicle, or felt one, or heard one but in the frigid atmosphere of liquefied helium, radicles have been caught and transfixed, which opens a whole new world of speculation of which you are going to hear much in the immediate future.

Whence Did It Come

Cryogenics, incidentally, derives its name from the Greek word kryos which means "icy cold". It is the basis of a hope for greater understanding of the internal forces that bind elements and compounds into their respective entities; to what extent the manner of these motions affect properties; and how properties may be controlled or altered by appropriate diversion of the recognized forces that are responsible for elemental or molecular motion. The day of the transmutation from any one element to any other is coming closer by the minute, and contrary to the occasionally expressed opinion that petroleum is a tired old fossil that has had its day and is about to become a retired old fossil of no further use to the world, the industry becomes more involved in the future every minute. Helium may merely at the moment occur with natural gas accidentally in the underground reservoir but that is to be doubted, for already the persistent scientists are taking hydrogen that is really derived from natural gas hydro-carbons and fusing the hydrogen atoms to form helium. Who knows, maybe nature found out how to do it first.

Johnston Stainless Welding Rods

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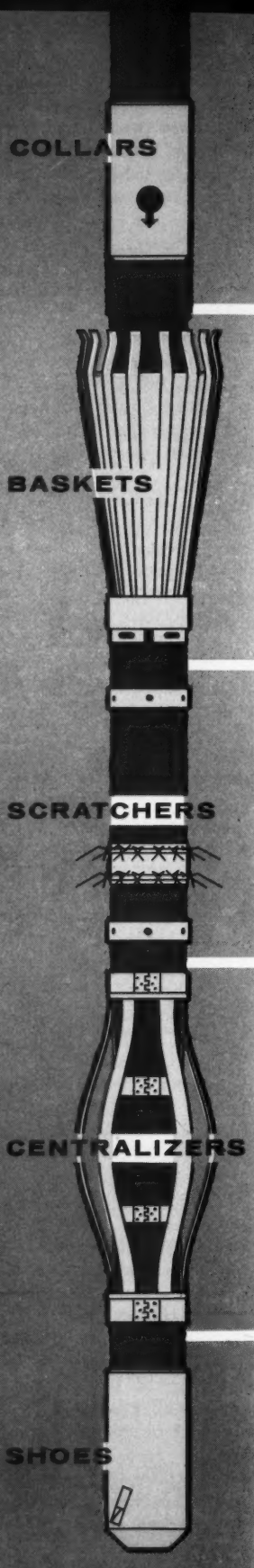
Never before has your supply store been able to offer such a complete line of Practical and Dependable BAKER Primary Cementing Tools!

You get *more* than just a good cement job when you select the balanced combination of Baker Primary Cementing Equipment. For, whether yours is a routine cement job or a "problem" with weak porous zones which must be protected from dangerous pressure surges—you'll get the job done right and preserve maximum productivity.

Baker Primary Cementing Equipment is conveniently available at your supply store, backed by the stocks in 64 Baker Branches. Over 400 Baker Servicemen stand ready to provide genuine help with your cementing problems.

The only complete line of Primary Cementing Equipment available through your supply store.



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Fill-Up Collar
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Fill-Up Collar
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Cement Float Collar
Product No. 101 M&F

Cement Baffle Collar,
with Hole
Product No. 104 M&F

Cement Baffle Collar,
Solid
Product No. 105 M&F

Triplex
Flapper Valve
Float Collar,
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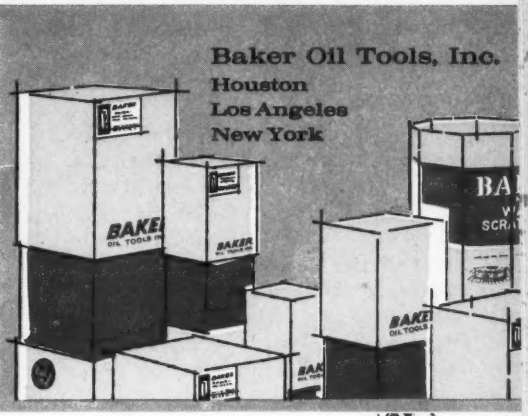
Metal Petal Basket,
with Stop Rings
Product No. 343

Plain Hook-Up Nipple
with Metal
Petal Basket
Product No. 330

Avoid welding . . .
lock casing shoes
and collars with
BAKERLOK
Thread-Locking
Compound
Product 050



Hinge-Lok Wall
Scratcher, with
4½" long wires
Product No. 900-C

Hinge-Lok Wall
Scratcher, with
2½" long wires
Product No. 900-C

Solid-Ring Wall
Scratcher, with
4½" long wires
Product No. 901-C

Solid-Ring Wall
Scratcher, with
2½" long wires
Product No. 901-C

Hammer-Lok
Stop Rings
Product Nos.
940-B (Solid)
and 945-B (Hinged)

Rotating
Wall Scratcher
Product No. 903

"G-12" Slim Hole
Casing Centralizer
Product No. 910-G

"HN-15" Solid-Ring
Casing Centralizer
Product No. 908-HN

"HN-20" Solid-Ring
Casing Centralizer
Product No. 908-HN

"H-15" Hinge-Lok
Casing Centralizer
Product No. 9115

"H-20" Hinge-Lok
Casing Centralizer
Product No. 9112

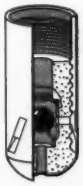
"H-25" Hinge-Lok
Casing Centralizer
Product No. 9113

Hinge-Lok Rigid
Casing Centralizer
Product No. 9133

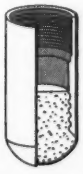
Differential
Fill-Up Shoe
Product No. 1081

Flexiflow
Fill-Up Shoe
Product No. 160

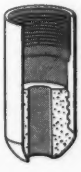
Cement
Float Shoe
Product No. 100



Cement Wash-Down
Whirler Float Shoe
Product No. 120



Cement
Bull Plug Shoe
Product No. 103



Cement Guide Shoe
Product No. 102

Triplex Cementing Shoe Product No. 1363

Continental-Emsco Takes Over Supervision Of Fibercast Co.

A change was announced Thursday, May 12, in the organizational alignment of Fibercast Company, manufacturers of glass-fiber-reinforced plastic pipe and a division of The Youngstown Sheet and Tube Company. The company will continue as a separate division but will be operated by Continental-Emsco Company, another Youngstown division with headquarters in Dallas, Texas.

F. M. Mayer, president of Continental-Emsco, announced that C-E Vice President Craig Smyser will serve as general manager of Fibercast. Simultaneously, he revealed plans to expand the Fibercast plant at Sand Springs, Oklahoma, in order to add 6 and 8-inch pipe and fittings to the current product line. The expansion is scheduled to be completed in about six months.

Present products include epoxy-resin pipe and fittings in 2, 2½, 3, and 4-inch sizes. They are manufactured by a centrifugal-casting process developed by Fibercast. Woven layers of glass-fiber reinforcing are enveloped within the plastic to extend working-pressure ranges up to 1000 psi. The products are rated for operating temperatures ranging from —65° to 300° F.

The change in management was effected immediately.

Emsco Buys Win-Well

Continental-Emsco Company has recently purchased the Win-Well Manufacturing Company of Tulsa, Oklahoma, including patents, inventory, jigs and fixtures for production of the Win-Well Rotary Selector Valve.

The valve will now be known as the Win-Well Green Triangle Rotary Selector Valve, and is being manufactured at Continental-Emsco's Garland, Texas, Plant. The valve replaces bulky headers in production or waterflood applications for use in manifolding or testing. The flow of the well fluids can be directed either manually or automatically through the production system or the testing system.

The Green Triangle Valve comes in three models—a four-way or eight-way in a two-inch, and a seven-way in a three-inch, all rated at 600 PSI working pressure. The valve is stocked at most Continental-Emsco Branch Stores.

D. J. (Don) Mack

Dowell Div. of Dow Chemical Opens Calif. Headquarters At Bakersfield

Dowell Division of The Dow Chemical Company has opened California headquarters in Bakersfield at 7440 Downing Road.

The company specializes in the use of chemicals to stimulate production from oil, gas and water wells. All of the well stimulation techniques that are available to the petroleum industry in other parts of the United States and Canada will be available to California's operators, according to A. C. Polk, executive vice president and general manager.

Dowell engineers and equipment operators have been transferred from the company's Rocky Mountain headquarters at Farmington, New Mexico. Additional personnel will be transferred as needed.

Already available from the Bakersfield service headquarters are the company's well known formation fracturing and chemical services. Another service now available is the Dowell developed Abrasijet.

Manager of the California operations is D. J. (Don) Mack. In charge of the Bakersfield operations is J. W. Clifford Jr. J. B. Ritchie is the service sales engineer.

Mack joined Dowell in 1951. He holds a petroleum engineering degree from Tulsa University. He had held positions of responsibility in engineering and sales at various locations where Dowell operates.

Clifford came with the company in 1955 and Ritchie in 1951. Both men have had extensive oil field experience in the Four Corners area of Arizona, Utah, New Mexico and Colorado.

Radioactive Tracers Now Available for Use By Oil Industry

Radioactive tracers for use by the oil industry are now available by Nuclear Consultants Corporation of St. Louis, Missouri, and Glendale, California. I-131, Sc-46, Ir-192, Co-60 and Cs-137, Sb-124, Au-198, Ra-226, and others are supplied in either water soluble, oil miscible, or oil solutions. Also available are specially tagged particle tracers of resin, charcoal, sand and plastic chips. Methyl iodide for gas tracer work is likewise supplied by both laboratories.

Full information is available from Nuclear Consultants Corporation, 1717 S. Victory Blvd., Glendale, California.

Signal to Rebuild Former Hancock Refinery

Signal Oil and Gas Company will start immediately to rebuild the former Hancock Oil Company refinery on Signal Hill near Long Beach, California, which was partially destroyed by fire two years ago, it was announced by Samuel B. Mosher, chairman of the board.

The two pioneer California oil firms were merged at the end of 1958, with Signal surviving as the largest independent in the West.

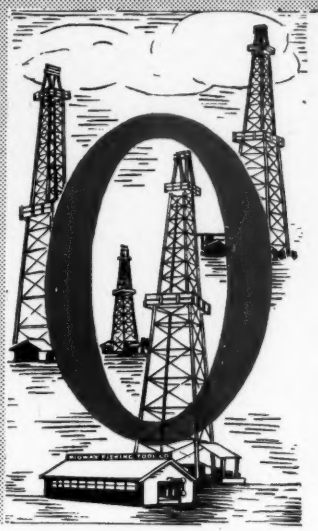
The first step of the long-contemplated reconstruction will provide Signal with a local refining capacity of 15,000-20,000 barrels per day by the end of 1960, Mosher said.

Top quality gasoline will be the Long Beach refinery's sole product, the board chairman reported.

Mosher stated:

"Because we are planning to increase the refinery's initial capacity, the facilities will be rebuilt in a way that provides for easy and rapid expansion. The ultimate through-put may reach 50,000 barrels daily."

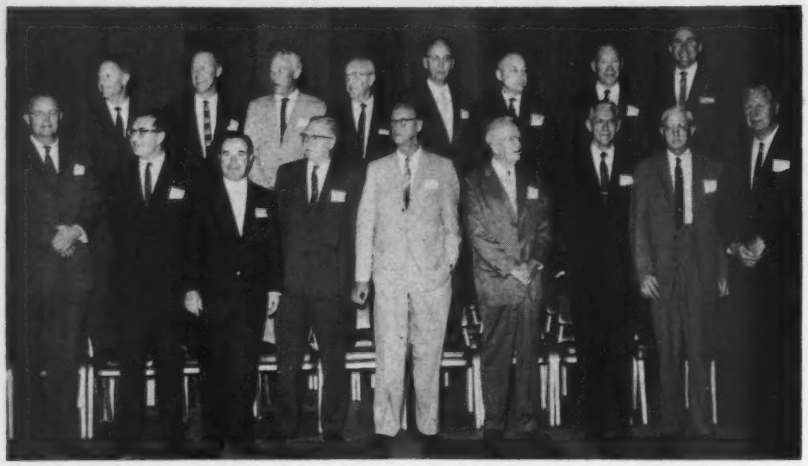
Signal also has a 60,000-barrels-a-day refinery at Houston, Texas, and a refinery at Bakersfield, California, with a daily capacity of 15,000 barrels.



On this our 50th anniversary, we wish to thank you – customers, employees, stockholders and suppliers – whom we are proud to call our friends. Without your help we could not have survived these many years, through boom and depression. We are grateful for any material success that may be ours, but we value most the friendship of those whom it has been our privilege to meet, to serve and to work with during our first half-century.

Midway Fishing Tool Company

May, 1960



Twenty-five representatives of the California Natural Gasoline Association attended the Thirty-ninth Annual NGAA Convention in Houston, April 26-29. This was one of the largest groups to ever attend this meeting from California. Back row, L-R: K. C. Vaughan, Union Oil Co., C.N.G.A. president; Harvey Menard, Signal Oil & Gas Co.; C. L. Case, Continental Oil Co.; C. L. Hutchings, Tidewater Oil Co.; J. A .Smith, Texaco Inc.; H. D. Spiers, Superior Oil Co.; W. H. Kraft, Honolulu Oil Corp.; D. R. Arnold, Signal Oil & Gas Co. Front row, L-R: R. O. Boykin, Monterey Oil Co.; T. S. Zajac, Shell Oil Co.; M. W. Kibre, Mobil Oil Co.; J. B. Taylor and R. W. Heath, Signal Oil & Gas Co.; Henry Wade, retired; D. E. McFaddin, Union Oil Co.; C. E. Gotterba, Richfield Oil Corp., and E. R. Millett, Jr., C.N.G.A. secretary-treasurer. Those attending the meeting but not appearing in the picture were: B. A. Eckerson, Signal Oil & Gas Company; G. W. Goulding, Western Gulf Oil Company; F. H. Lacy, Honolulu Oil Corporation; Lloyd Jones, Cooper-Bessemer Corporation; C. J. Rajnus, Ingersoll-Rand Company; Lee Jamison, The Ohio Oil Company; Warren Kane, Clark Bros. Co., and John Fraser, Union Oil Co. of California.

Desk and Derrick Clubs Hold Regional Meeting In Sacramento

The Regional Meeting for Region VIII, Association of Desk and Derrick Clubs of North America, was held in Sacramento, California, on May 14.

Approximately 150 women from California, Washington, Oregon, Hawaii and Canada, all employees of the petroleum and allied industries attended.

Lieutenant Governor of the State of California, Glenn M. Anderson, gave the welcoming address to the delegates at the opening session conducted by Miss Luella Ulrich, Director of Region VIII, from Seattle, Washington. The morning session was followed by a luncheon for the delegates.

W. B. Dubin, former diplomat in the United States Foreign Service, and now district marketing manager for Tidewater Oil Co., Sacramento, was the featured speaker at the banquet.

The following members from the Bakersfield Desk and Derrick Club attended this convention: Mrs. R. H. Wells, Mrs. Mildred Wiebe, Miss Wilma Addington, Mrs. Sue Cummings, Mrs. Geneva Rottier, Mrs. Zoe Waldren, Mrs. Margaret Dietz, Mrs. Lorene Taves, Mrs. Betty Crow.

L. A. Basin Chapter A.P.I. Annual Golf Tournament and Barbecue June 3

The Los Angeles Basin Chapter of the American Petroleum Institute will hold its Annual Golf Tournament and Barbecue at Los Alamitos Golf Course and Clubhouse on Friday, June 3, 1960.

Starting times for Golf Tournament will be from 6:00 A.M., to 1:00 P.M. and will be allocated on "first come, first served" basis. Entry fees will be $3.00. Play will be in fivesomes. Two flights will be played—handicap players and non-handicap players.

Naval Commander Guest Speaker At Bakersfield D&D Club

Lieut. Commander George Hamilton of the U. S. Navy is scheduled to be the speaker for the June 2 installation of officers of the Bakersfield Desk and Derrick Club at Maison Jaussad's. Lt. Cmdr. Hamilton is a native Californian with 24 years of Naval Service to his credit, presently serving on the staff of the Commander, Pacific Missile Range at the Naval Missile Center, Point Mugu, Calif.

The title of his address will be, "The Story Behind the Code of Conduct for the Armed Forces of the United States." The subject matter deals with the Code of Conduct that each member of the armed forces is now required to sign and which has resulted from much research and interrogation of our men that were prisoners of war during the Korean conflict.

A social hour will precede the meeting at 6:30 p.m. with dinner to be served at 7:30 p.m. This affair will be open to the general public, anyone interested in attending should contact Sue Cummings at FA 7-2271 or Jackie Shuck at EX 9-1766.

I.P.A.A. Luncheon Meeting

Oilmen from throughout Southern California attended a district luncheon meeting of the Independent Petroleum Association of America, May 18 in the Sheraton-Town House, Los Angeles.

Col. Alvin C. Hope, IPAA president from San Antonio, Texas, and Minor S. Jameson, Jr., Washington, executive vice president of the national oil and gas producers' organization, were the principal speakers.

Plans for the meeting were arranged by **Chester F. Dolley,** Los Angeles, president of Atlantic Oil Company and IPAA vice president for Southern California, and **I. C. Huff, Jr.,** Tulsa, Okla., executive

Col. Alvin C. Hope

manager of IPAA.

Dolley was the master of ceremonies and introduced the speakers.

Hope discussed prospects for legislation to remove natural gas producers from federal utility-type regulation, and IPAA efforts to obtain further reduction of oil imports under the government's mandatory oil import program.

Jameson, one of the petroleum industry's most widely known economists, talked on economic problems which IPAA is studying through a recently organized, top-level "Ways and Means committee" composed of industry leaders from all sections of the nation.

Dolley invited oilmen from throughout the area to the meeting which was the ninth in a series of "grass roots" IPAA sessions designed to acquaint local members with both industry projects and legislative issues with which the organization is concerned.

The meeting featured an open discussion in which those attending questioned the IPAA officers, and made suggestions as to industry problems and the association's efforts.

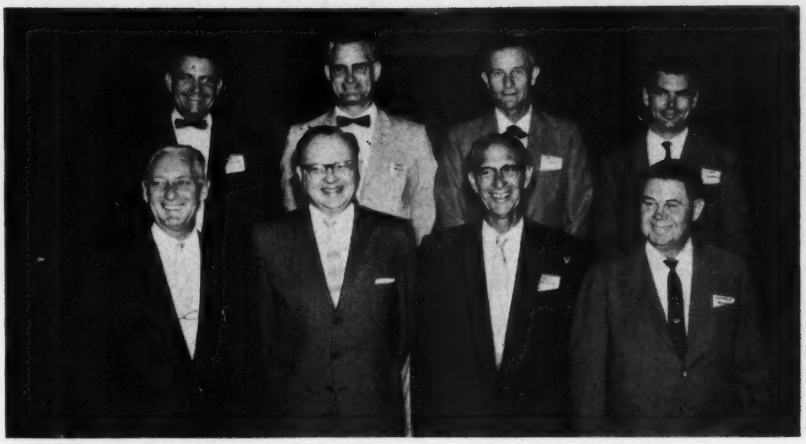
The meeting in Los Angeles followed a similar one held by IPAA in Bakersfield.

Chester F. Dolley

Geological Forum Meeting

Four speakers addressed an evening forum meeting of the Pacific Section, A.A.P.G. Dr. O. L. Bandy discussed "Foraminiferal Ecology of the Gulf of California". Dr. R. H. Jahns and L. A. Wright spoke on the "Garlock and Death Valley Fault Zones in the Avawatz Mountains, California" and C. C. McFall discussed "Geology of the Ecalante-Boulder Area, South-Central Utah."

The forum was held Monday, May 16, in the Mobil Auditorium, L. A.



INTERNATIONAL GUESTS AND SPEAKER at the May 11, 1960, meeting of the Los Angeles Chapter of Nomads. From left to right (front row), J. R. Tomlinson from Mexico; N. E. Shafer, speaker; Tommy Thompson of Brantly Drilling Co. from Brazil; George Murray of Petrobras from Brazil; (back row) Fred Large of International Industrial Services going to Libya; Fred Peveto of International Industrial Services from Libya; Paul A. David of Petrobras from Brazil; H. J. Clarke of British Petroleum from Das Island.

Luncheon Meeting A.A.P.G.

Dr. William L. Donn, Professor of Geology and Research Associate at Lamont Geological Observatory, addressed the luncheon meeting of the Pacific Section, A. A. P. G. Dr Donn, A. A. P. G., distinguished lecturer, spoke on "A Terrestrial Theory of Ice Ages" in an illustrated talk which was supported by new data from Siberia and Northern Canada.

The luncheon was held May 27 in the Rodger Young Auditorium.

Southern California SPE Field Trip

The annual Spring field trip of the Southern California SPE of AIME, was held May 21.

The groups departed on air-conditioned, sound-equipped buses and visited Kern Front Field, Poso Creek Field, Mt. Poso Field and Round Mt. Field. Lunch was served at the Shell Oil Co. recreation area in Bakersfield. The afternoon was spent at Standard Oil Co.'s Oildale refinery and a water disposal plant in Bakersfield. The trip terminated at 3:30 p.m. and was "topped off" with a barbecue at Shell's Bakersfield outdoor recreation area, which included refreshments and a door prize drawing.

Trip general chairman was Ben Bayliss, Lloyd Corp., Ltd. Co-chairmen were Fazio, ticket sales; Orhan Salman, Bell Petroleum Co., food and publicity; Chuck Downey, The Youngstown Sheet & Tube Co., transportation and publicity.

Thomas Moroney Speaks At S. F. Desk & Derrick Club

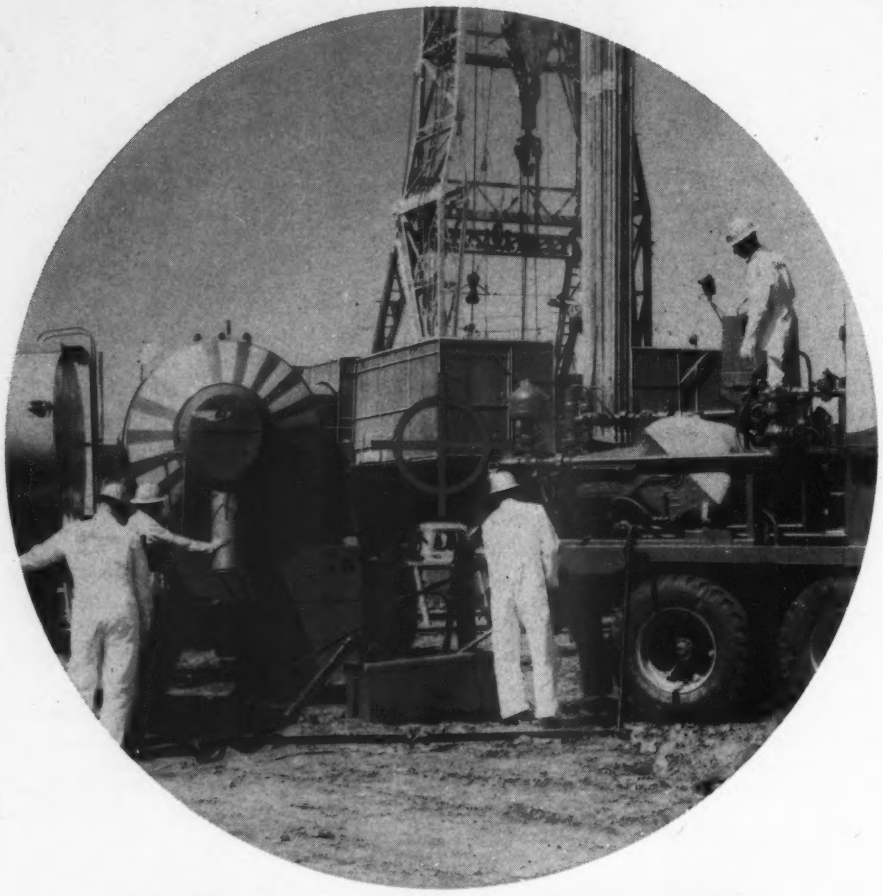
The regular monthly meeting of the San Francisco Desk and Derrick Club was held May 12.

Thomas C. Moroney, secretary and manager of the legal department, Honolulu Oil Corporation, was guest speaker. Moroney's topic was "Is the Constitution Obsolete? Let's Look at Current Legislation", and touched mainly on the Mineral Leasing Act Amendments, the Wilderness Bill, Regulation of Natural Gas Producers, Gasoline Tax and the Severance Tax.

Moroney has been associated with the Honolulu Oil Corporation since 1937 and also serves as Vice President and Director of Felix Oil Company.

Ben Bayliss

CENTER YOUR ATTENTION

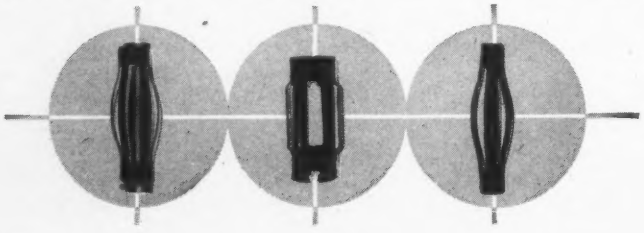


HALLIBURTON
THE FULL LINE OF CENTRALIZERS

The SUCCESS of a good cementing job depends on many things – experienced men . . . well designed equipment . . . attention to detail. High on this list of importance is the need for keeping the casing centered in the hole while cementing to help provide a better more thorough bond of cement on all sides of the casing. This full circle of cement contributes to the protection of the surrounding formation as well as the casing.

Helping to keep the casing centered is the task assigned to Halliburton Centralizers. They are designed to function in all wells – straight or crooked – deep or shallow. Experience has convinced thousands of operators they can *plan* on Halliburton Centralizers' ability to do the job and help provide better cement distribution.

Unique design, quality workmanship and rigid inspection methods make the Halliburton line of Centralizers tops in the field . . . just like the many other products and services offered by your nearby Halliburton Representative. Contact him before your next cementing job.



FOR REGULAR CASING STRINGS

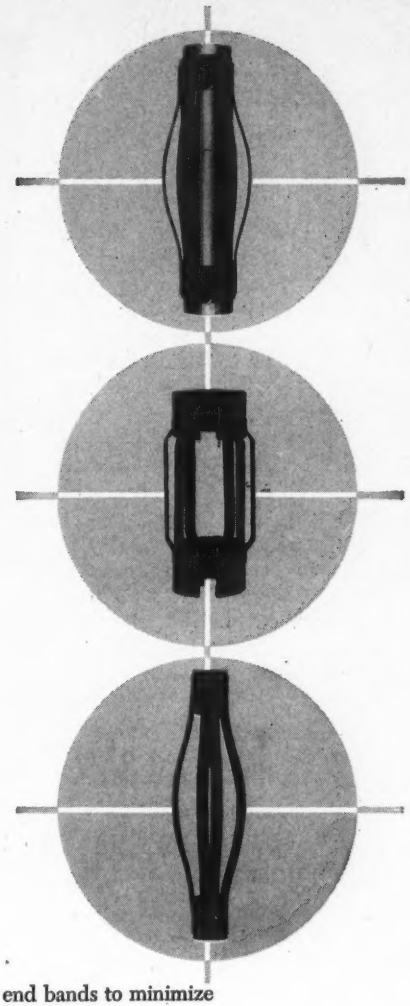
... the S-3 Centralizers are available in a complete range of standard casing sizes from 4½" through 24" O.D.... with special sizes furnished on request. The S-3 is equipped with 28" long heat-treated steel springs designed for maximum casing centering with a minimum number of centralizers required.

FOR SLIM HOLE STRINGS

... the Slim Hole Centralizers are of positive type preformed steel springs and tailored for pipe sizes ranging from 2⅜" through 9⅝" O.D. Overall length is 18" with 1" high-strength springs designed for specific slim hole sizes or for liners run inside casing.

FOR TUBING STRINGS

... the Tubing Centralizer standard sizes range from 2⅜" through 4" E.U.E.... with other sizes available on special order. Tubing Centralizers are of the same design and overall length of the popular Model S-3 type Centralizer... steel springs are heat-treated to give maximum centering force for helping to protect tubing against wear when run in and out of casing... centering of tubing in open hole also gives better placement of cement around the string.



compare these advanced features...

- **Ample Clearance** between casing or tubing and centralizer end bands to minimize drag when rotating pipe.
- **Special Heat Treated Steel Springs** help prevent loss of bowed height to retain maximum centering force for pipe after trip to bottom.
- **Hinged Type** saves rig time – no welding required when hinged over collars.
- **Lap Welded Construction** of springs to end bands minimizes spring breakage often occurring from butt-welding.
- **Good Annular Circulation** since adequate spacing of springs minimizes obstruction to flow of fluid.

EZ LOK LIMIT CLAMP

... new method of installing auxiliary equipment on casing or tubing without welding. Hinged for easy installation.

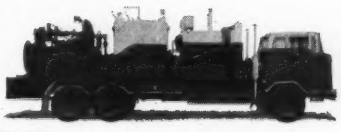
NEW ... FOR TUBINGLESS COMPLETIONS

... the new wrap-around Halliburton Tubing Spacer, easily applied with metal banding, is molded of hard rubber with six positive type ribs. Tapered design helps prevent coupling interference when running tubing... ⅝" minimum stand-off provides less fluid restriction.

This full line of Centralizers is typical of the Halliburton idea of *complete* service to the industry. Call your Halliburton Representative for the full story.

275 SERVICE CENTERS – JUST MINUTES AWAY FROM YOUR WELL

HALLIBURTON
CEMENTING SERVICES



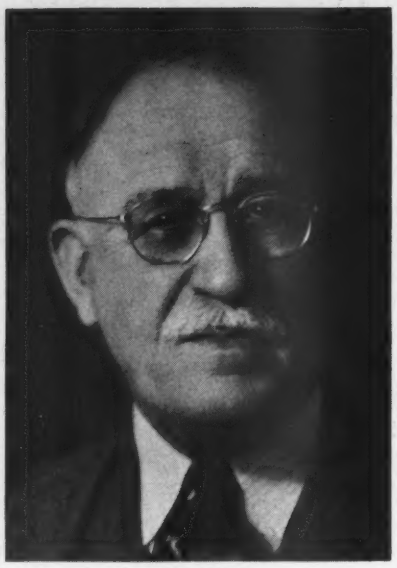
HALLIBURTON OIL WELL CEMENTING COMPANY—DUNCAN, OKLAHOMA

Old Friends Pass Away

By RICHARD SNEDDON

It's a sobering thing to realize, as many must be doing at this moment, that we have reached the end of a significant era in the history of California oil. In comparatively recent days three men who were long prominent in petroleum circles, have passed on, and each has left a consequential legacy that should perpetuate his name on the industry's honor roll.

First was **Frederic Chandler Ripley,** Manager and Director for many years of the Chanslor Canfield Midway Oil Company, a director of the Western Oil & Gas Association, life member and past honorary president of Petroleum Production Pioneers, and a historian of note. He was the son of E. P. Ripley, president of Santa Fe railroad, was born in Boston, and came to California in 1901 as an emissary of the Richardson Grain Co. Two years later, however, he was appointed assistant manager of Petroleum Development Company, a subsidiary of the Santa Fe Railway which had holdings in the Olinda and Kern River fields. The Petroleum Development Company blossomed into C.C.M.O. and Mr. Ripley was responsible for much of its subsequent expansion. A plaque at the site of the first gusher of the Midway field, "2-6," memorializes in a very permanent way one of his most exciting oil adventures. He is also credited with pioneering the development of such fields as Torrance, Richfield, and Rincon. Mr. Ripley retired in 1947 after 43 years in the oil business, but through oil properties of which he was trustee, remained interested and alert in petroleum affairs up to the day of his passing. During his later years, when he became less active, he derived great pleasure from cultivating the friendship of the birds and small animals that frequented the garden of his



Frederic C. Ripley

West Adams house. They were quite at ease in his presence and blue jays and other birds fed from his hand, or perched on his shoulder, without the slightest alarm, some even answering to the names which he had given them, all of which added charm and enjoyment to the closing years of his completely interesting and altogether constructive life.

Then there was **Tom Hickey,** the lovable Irishman, who came to California from Dunvargan in Waterford County and garnered his initial acquaintanceship and experience in Coalinga, where so many of the most colorful pioneers of the petroleum industry had their beginnings. There he founded the Hickey Pipe & Supply Company of which he was president at the time of his death, and through which he became widely known and greatly admired during the many years that he served the California oil industry.

But when you speak of Tom Hickey somehow his business success, although he had plenty of it, seems to be of little importance. Here was a man whom I had known quite intimately for some 25 years and I can say with genuine sincerity that to my knowledge a kindlier soul never lived. Indeed, if I were asked to define the attributes of a true gentleman, I would try to remember the humanitarian qualities of Tom Hickey, for to me he embodied all that was good, and clean, and worthwhile.

He was sympathetic to every deserving cause, modest, generous, and in all the years I had known him, I never heard him say an unkind word about anyone. Nor did I ever hear anyone speak unkindly of him. He loved people and was consequently loved. Certainly he earned my lifelong gratitude for his goodness to me and to my family. He was also a life member and a past honorary president of Petroleum Production Pioneers in which he had been interested since its inception. By every measure Tom Hickey was a delightful person about whom it can be said that this world is definitely better because of his having been here.

Occasionally there looms across the petroleic horizon a man who attracts by the sheer virtue of his genius. In this category was **John A. Zublin,** who died on March 26 at the age of 74. The name Zublin for many years was as familiar to California oil men as that of Clarence Coberly or the late Carl Baker, and in some respects for very similar reasons. John Zublin was graduated from the Swiss Federal Polytechnich School with an M.E. degree, and was an inventor like these others. During his long and distinguished career, indeed, he was granted over 150 patents. He was one of these fitful souls who can never be satisfied with the status quo. He scorned the beaten trail; searched always and avidly for the new path, the better way; and there is no doubt that life must have been a thoroughly enjoyable experience to him as he adventured among the machinery and methods of his beloved oil people.

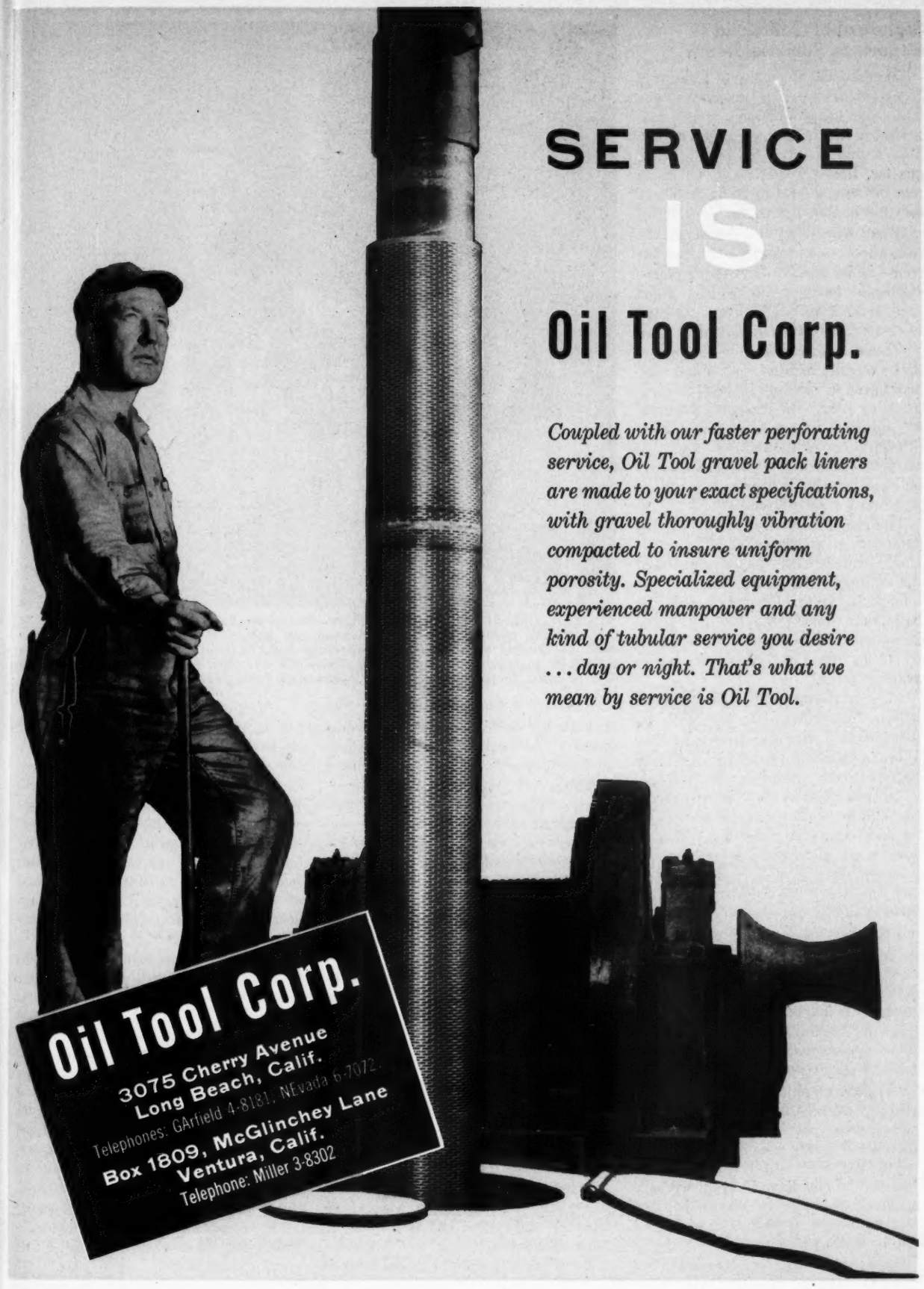
Stripper Well Report

Albert E. Sweeney, Jr., director of technical services of the Interstate Oil Compact Commission, has announced that the "National Stripper Well Survey as of January 1, 1959," has been completed. This survey was a joint project of the Interstate Oil Compact Commission, the Independent Petroleum Association of America, and the National Stripper Well Association.

This survey reveals that the 373,870 stripper wells in the United States as of January 1, 1959, produced 511,842,135 barrels of oil for an average of 3.75 barrels per day per well.

It is estimated that approximately 11% of the oil reserves of the United States are in these stripper fields and that these fields are capable of producing slightly more than 11% of the total United States reserves under secondary recovery methods.

The stripper wells of the United States represent 65% of all the wells in the United States and produced during 1958 approximately 21% of the total oil produced.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Standard of California Reports to Stockholders

Standard Oil Company of California is experiencing gains in natural gas and crude oil production and in product sales which have contributed to a 5% earnings advance in the first quarter, Board Chairman R. G. Follis told the annual meeting of stockholders recently in San Francisco.

Along with these improvements, the company also anticipates a further increase in its steadily developing petrochemicals business, in which, Follis said, gross sales in 1960 are expected to rise by more than 10%.

On the basis of these developments, the company expects "a modest improvement in earnings in 1960 as compared to 1959," the chairman forecast. He cautioned, however, that weak prices persist in the industry and "we can look forward to a potential oil surplus and a highly competitive world oil situation for several years."

The chairman stressed that "we can anticipate a continuation of the dynamic growth which has characterized the oil industry from its inception. Although this will be less on a percentage basis than during the last ten years, it is expected to be on the order of 5½% in the Free World for many years to come."

Present oversupplies, he predicted, will in time swing into line with requirements. Citing the growth in Free World petroleum demand of a million barrels per day annually, he declared:

"It would seem that in an atmosphere of expanding demand such as we have, although at times we will have periods of dislocation in supply, the growing demand will tend to correct oversupply as it has repeatedly throughout the life of our industry."

Standard is proceeding with a $400 million program of capital and exploratory expenditures which will provide necessary facilities to maintain the company's market position and continue its exploration program at the same approximate rate as in recent years, Follis reported, elaborating:

"We are stepping up exploration in areas where relatively quick results can be expected and de-emphasizing the search for major new finds in foreign lands. We believe this shift has been justified by the diversification we have achieved from developments in Iran and Indonesia, as well as a promising one in Libya."

Follis revealed the company first foresaw the problems of stiffened competition and weakened price structures in 1957 and embarked at that time on a program of organizational streamlining. "We have been and are continuing to eliminate all possible expenses," he told the meeting, "to assure that we will be able to compete favorably with all others on a basis of cost."

All directors were re-elected at the meeting.

LOCAL SECRETARIES OFF TO EUROPE—Muriel Seyffer (second from left) and Zo Ann Walden (extreme right) are pictured just before boarding an SAS transpolar flight to Europe, with traveling companions Anita Kirkland and Pat Flaherty. Miss Seyffer is an executive secretary with Union Oil and Miss Walden works for Wilshire Oil. Together, the girls plan to visit Copenhagen, Paris, Madrid and Lisbon.

UOP Announces Lower Cost Fuel Oil Stabilizer

A new potent low-cost fuel oil additive has been announced by Universal Oil Products Company.

Tradenamed "Polyflo 120," the additive provides effective stabilization of fuel oil at lower cost, as shown in tests by UOP. It is especially suitable for treatment of No. 2 heating oil and diesel fuel derived from a wide range of crude stocks and can be applied to other distillates.

Specific application of the new product is dependent upon the type of crude used and the processing, storage and transportation methods involved. In certain instances the use of Polyflo 120 will be recommended, while other situations will call for specifications of Polyflo 100 or one of the other UOP fuel oil additives, the UOP spokesman stated. Polyflo 120 will maintain fuel oil stability throughout seasonal storage periods even under high summer heat conditions.

Treatment costs using Polyflo 120 range from one-fourth to one-half cent per barrel with recommended concentrations of five to ten pounds per 1000 barrels. In comparison, recommended dosage for a typical additive frequently varies between 25 to 75 pounds per 1000 barrels.

Polyflo 120 is water white. It is highly effective as a color stabilizer, sediment inhibitor and anti-emulsion agent, UOP tests show. It can be added to distillate stocks before, during or after blending at the refinery.

Other advantages cited include a synergistic effect when used with UOP metal deactivators.

Los Angeles Steel Casting Co. Purchased by Shaffer Interests

R. H. McAllister, president of Los Angeles Steel Casting Co., announces that the 58 year old organization has been purchased by Shaffer interests of Brea, Calfiornia.

For many years the Los Angeles Steel Casting Co. has played a prominent role in the industrial development of Southern California. It has the largest capacity in the Southland for unmachined steel castings and produces approximately one-third of the total steel casting tonnage used by industries in the greater Los Angeles area. It also supplies castings to industries in Colorado, Texas, Utah and Northern California.

Wide Range of Facilities

Its output ranges in size from castings weighing only a fraction of a pound to giant castings as large as 10,000 pounds, and it has complete facilities for working in a wide range of ferrous metals, including carbon steels, low and high alloy steels, a full line of stainless steels, heat resistant steels and ductile irons.

Aside from new ownership, McAllister states that no changes in personnel or policies are planned in the long-established operations of the Los Angeles Steel Casting Co. organization.

Richfield Fellowships To Five Western Schools

Graduate fellowships and supplementary grants totalling $17,000 have been awarded to five western schools for the 1960-61 academic year by Richfield Oil Corporation, the company announced recently.

Areas of graduate study for which the Richfield fellowships will be granted include business administration, chemical engineering, economics, petroleum geology and petroleum engineering. Selection of student recipients will be made by the colleges concerned.

Awards are: Claremont Graduate School, two fellowships in business economics; University of Southern California, a fellowship in petroleum engineering; Stanford University, one fellowship in Petroleum Engineering, one in chemical engineering and one in business administration; University of California at Los Angeles, one fellowship in petroleum geology and one in business administration; University of Washington, a fellowship in chemical engineering.

Howard Williams, right, of The Republic Supply Company of California, receives "Salesman of the Year" award as one of Los Angeles area top industrial salesmen from Ralph Yambert of the Los Angeles Sales Executive Club.

Williams Repeats As Salesman of the Year

Winning a "Salesman of the Year" award as one of the Los Angeles area's top industrial salesmen was a repeat performance for Howard Williams of The Republic Supply Company of California.

Williams, who won a "Sammy" once before in 1953, has been given a fifteen-inch trophy naming him one of the year's five best Los Angeles area industrial salesmen at the annual Los Angeles Purchasing Agent's Association presentation luncheon held at the Los Angeles Elks Club in April.

The award was sponsored by the Metals Group of the L. A. Purchasing Agent's Association and presented by Ralph Yambert of the Los Angeles Sales Executive Club.

The Republic Supply Company of California is a major West Coast distributor of industrial and water works supplies, metals, tubing and oil field equipment. Williams has been with Republic for 14 years.

Occidental Petroleum Plan To Control Parker Given Final Confirmation

Occidental Petroleum Corporation's reorganization plan to take control of Parker Petroleum Corporation of Ponca City, Okla., was given final Federal Court confirmation on May 16 in Oklahoma City.

Hearings were held May 13 in the U. S. District Court in the Western District of Oklahoma. After Judge W. R. Wallace heard reports of the Trustee, attorneys and Securities Exchange Commission, he officially entered his order on May 16 confirming the Occidental plan, which has already been overwhelmingly approved in balloting by the Parker creditors and stockholders.

Shell Chemical Enlarges Plant

Shell Chemical will triple its projected plant capacity for the production of polyisoprene, the man-made equivalent of natural rubber, it was announced recently in Torrance, Calif., by J. P. Cunningham, general manager of Shell Chemical's Synthetic Rubber Division.

Shell Isoprene Rubber, the company's name for the new synthetic, has been manufactured commercially on a scale of up to five tons per day at Torrance, California, for slightly over a year, enabling consumers throughout the country to evaluate it in a wide variety of products, ranging from elastic bands to huge tires for earth-moving machinery. The Torrance plant is currently being expanded to a capacity of 40 million pounds per year of polyisoprene with completion of construction expected this fall. The second installation, presently in an advanced stage of engineering design, will be on stream one year later.

This expansion will involve construction at a midwestern location of an integrated monomer-polymer plant of 80 million pounds annual capacity, the hydrocarbon feedstocks for which will come from Shell's Wood River Refinery located near St. Louis, Missouri.

Union Oil of Calif. and K.C.L. Increase Australian Activity

Union Oil Company of California and Kern County Land Company will participate with the Australian Oil & Gas Corporation in exploring three areas totaling 12,300 square miles in the Hunter River Valley of New South Wales, it was announced recently.

These areas are in addition to the 60,000 square miles in which the three companies are presently exploring in southwestern Queensland and northern New South Wales.

Under terms of the arrangement, Union Development Company, a wholly owned subsidiary of Union Oil Company, and Kern County Land Company are jointly financing the program, with Union acting as manager-operator.

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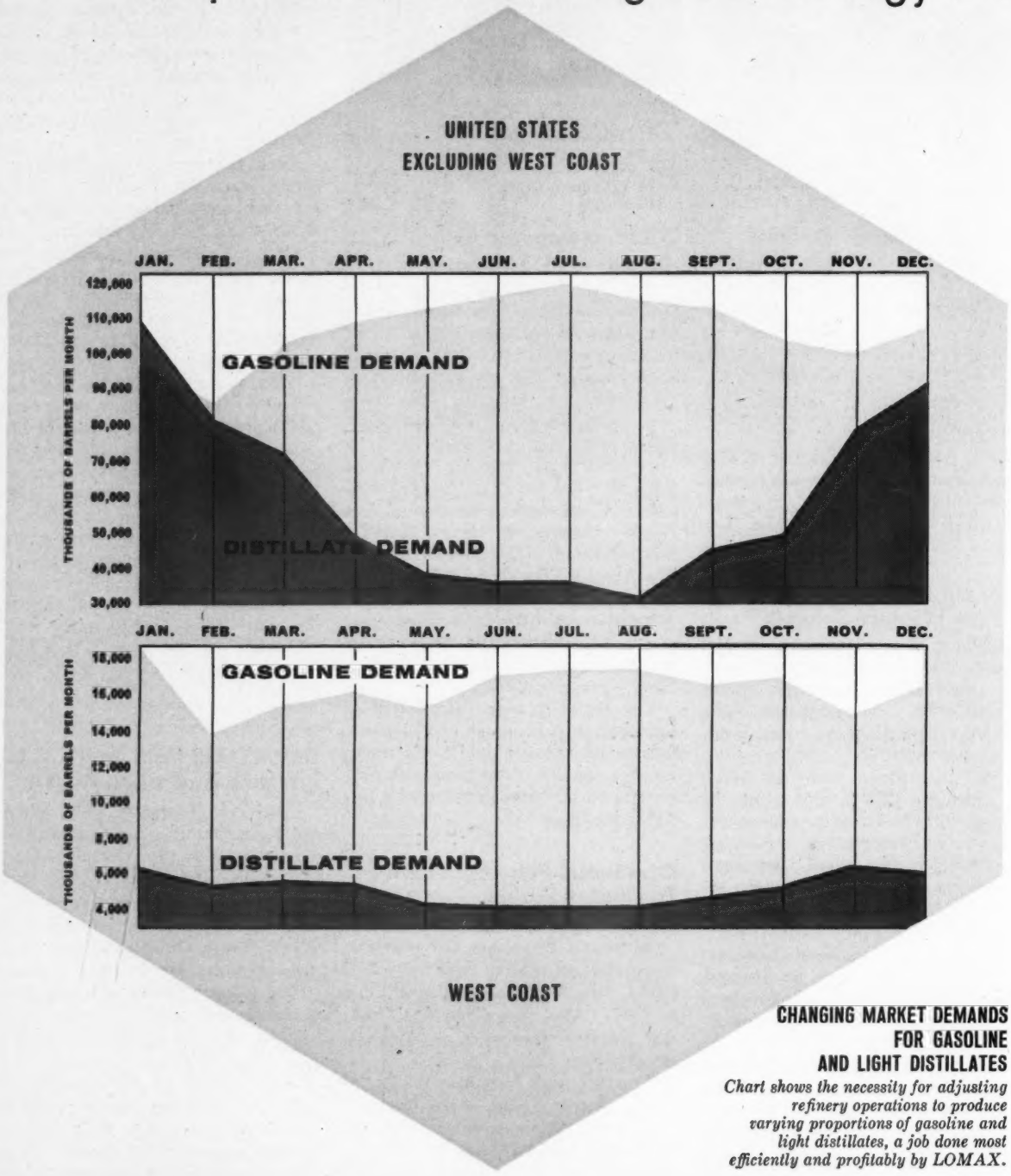

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Personalities IN THE NEWS

F. G. Fabian, Jr.

Fabian Promoted to Executive Vice President Dresser Industries, Inc.

The promotion of **F. G. Fabian, Jr.**, to the position of executive vice president of Dresser Industries, Inc., Dallas, Texas, was announced recently by **H. N. Mallon**, chairman of the board. Fabian has been president and general manager of Dresser Manufacturing Division at Bradford, Pennsylvania, a division of Dresser Industries, since 1955.

In his new position at Dresser Industries, Fabian will assume the responsibility for operation of five oil field divisions, namely The Guiberson Corporation, Dallas, oil field tools; Ideco Division, Dallas, oil field drill rigs and equipment; Security Engineering Division, Dallas, drilling bits; Lane-Wells Company, Houston, oil well logging and perforating; and Magnet Cove Barium Corporation, Houston, drilling mud and chemicals.

UOP Names Four In Chemical Products Expansion

Four marketing and manufacturing management men have been named by Universal Oil Products Company in an expansion of its chemical products activities. They are **R. J. Schoenenberger, J. A. Neuman, D. D. Hansen** and **W. K. Hunter.**

Schoenenberger has been appointed general manager of product sales and chemical products development. He is succeeded as head of chemical products development by Neuman, formerly manager of UOP's manufacturing division in McCook, Ill. Hansen, formerly assistant manager of the Shreveport, La., manufacturing plant is now manager of the McCook plant.

Hunter has been named head of catalyst sales. He formerly was a coordinator of supply and distribution.

Flying A Names Spires Ass't. Dist. Production Manager

H. D. Spires of Tidewater Oil Company has been named assistant district production manager in the San Joaquin Valley for the Flying A firm, it was announced recently by Vice President **Charles R. Brown**, western division general manager.

H. D. Spires

Transferring to his new California assignment from Tidewater's southern division, Spires formerly was the Flying A firm's district production superintendent at Oklahoma City, heading producing operations in Oklahoma, Kansas and North Texas.

R. Perry Kilsby

Republic Supply of California Names Kilsby Vice President

R. Perry Kilsby has been named a vice president of The Republic Supply Company of California, Company President **John J. Pike** has announced.

Kilsby retains his position as president of Kilsby-Tubesupply. Republic is a major West Coast distributor of metals, industrial and water works supplies, pipe, tubing and oil field equipment.

Smith Personnel Changes Announced

Appointment of **Jim Savers** as foreign sales manager of Smith Tool Co. has been announced by **Arthur S. Marshall,** vice president-sales. Sayers will headquarter at the company's main offices and plant in Compton, California. For the past year and one-half, he has been manager of Canadian operations for the company with offices in Edmonton, Alberta.

Art Hawkins, who has been Coastal division manager since September, 1957, at Ventura, California, succeeds Sayers in Canada. Hawkins has been associated with Smith Tool Co. since 1947.

Chuck Petrie becomes Coastal division manager. He was formerly assistant division manager and has been with the company for the past ten years.

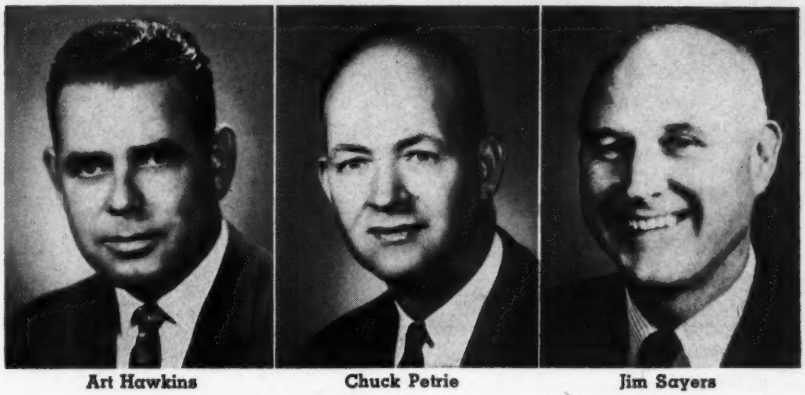
O'Brien Elected Vice President U. S. Industries, Inc.

Richard D. O'Brien has been elected a vice president of U. S. Industies, Inc., according to an announcement by **John I. Snyder, Jr.,** chairman of the board and president.

O'Brien is charged with the corporate direction of three USI operations serving the oil, gas and chemical industries and with planning for USI's expanding activity in world-wide petroleum equipment markets. The divisions he is responsible for are: Garrett Oil Tools of Longview, Texas; Axelson of Los Angeles, manufacturers of subsurface oil well pumps, sucker rods, hydraulic pumping units and specialty oil field production equipment; Oil Field Sales & Service, S.A., Maracaibo, Venezuela.

O'Brien for several years was Secretary of USI. More recently, he has been a Group Officer for the company's petroleum equipment business. He will continue to have his office in New York City.

Richard D. O'Brien



Art Hawkins | Chuck Petrie | Jim Sayers

Buttes Gas & Oil Co. Elects M. J. van Loben Sels President

The Board of Directors of Buttes Gas & Oil Company has announced the election of **M. J. van Loben Sels** as president of the company.

Mr. van Loben Sels has been a director of Buttes for the past year and is a consultant in civil engineering with offices in Redwood City. Prior to World War II, van Loben Sels was in the engineering departments of Standard Oil Company, San Francisco and Tidewater Associated Oil Company, Portland. Mr. van Loben Sels replaces **O. G. Green** who retired May 18.

Morton H. Gleason, Lafayette, Buttes board member since 1943, was elected vice-president of the company. He brings to management the benefit of his many years experience in the construction industry in the Bay Area.

Jeff Watts was promoted to general manager and chief engineer. He joined Buttes last year as assistant general manager. His 15 years in the gas industry of Northern California provides excellent experience for his present work.

Gulf Oil Completes Organizational Assignments in Denver Production District

Personnel assignments in Gulf Oil's Denver Production District have been completed, **R. L. Boggs,** vice president, domestic production, announced. The Denver District is responsible for all exploration, drilling, and production operations in Colorado, Nebraska, North and South Dakota, Minnesota, Montana, Wyoming, Utah, Arizona, California, Oregon, Washington, Idaho, the western portion of New Mexico, and Alaska. It is one of seven Gulf Production Districts in the United States, all of which are under the jurisdiction of Gulf's Domestic Production headquarters in Houston.

Heading the district as manager is **A. M. Bell, Jr.** Under him, as managers of the District's various functions, are: **L. E. Warren,** exploration; **E. W. Brake,** production; and **W. C. Gallaway,** services.

Serving under Warren in exploration, are: **T. C. Wilson,** district geologist; and **P. A. Rahe,** district landman.

Production, under Brake, has **W. E. Bauman,** district engineer.

The area production managers are **J. M. Otts, Jr., L. W. LeFavour,** and **T. A. Trax.** Area exploration managers are **D. Gilkison, R. K. O'Connell,** and **J. Hanson.**

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LOS ANGELES BASIN

Inglewood New Pool Discovery

Standard Oil Company completed Marlow-Burns No. 306 as a new pool discovery flowing 464 b/d of 29.0 gravity clean oil and 480 mcf of gas per day. The completion was drilled to a total depth of 8764 feet, cemented 9⅝" casing at 3250 feet and 7" casing at 7271 feet. The well is located in the southwest quarter of Section 16-2s-14w.

Third Salt Lake Test

Union Oil Company is drilling below 1500 feet on its third directionally drilled test, Union-Signal-Pacific Electric No. 3, in the Pico Blvd.-La Brea Avenue area. Both wells No. 1 and No. 2 are standing temporarily suspended.

Farmers Market Test Completed

Buttram Petroleum Corp.'s Gilmore No. 1, located on Gilmore Island near the Farmers Market, drilled to a total depth of 4687 feet and is being plugged back to cement casing and complete. On an open hole test of the interval 2552-2610 feet, the well flowed at a 300 b/d rate of 17 gravity clean oil, and a test of the interval approximately 3100-3160 feet flow was reported to be in excess of 400 b/d. Location of the test is in the northwest quarter of Section 21-1s-14w.

Jade Oil Company has announced that drilling of the first well by the Jade-Buttram combination will commence within the next few months, and it is expected to complete these wells in Zones below the old Salt Lake field zones from which about 45,000,000 barrels of oil were extracted before drilling was banned in 1925. The Jade Oil Company holds leases of approximately 750 acres directly offsetting the Buttram Petroleum's Gilmore No. 1 well now preparing to complete. Buttram is in the process of creating a drilling district for the Jade property.

Imperial County

H. W. Schafer abandoned Barbara No. 1 after redrilling the section of the hole from 4650 feet to 5725 feet. Originally drilled and suspended at a depth of 5708 feet by the Border Oil & Gas Company, Schafer deepened the well to a total depth of 8015 feet before plugging and redrilling. The well was located in the southeast quarter of Section 16-16s-17e near the Mexican border.

Bouquet Canyon Test

Westmont Petroleum, Inc., is planning to drill Bonelli No. 1 in the Bouquet Canyon area, to be located near the center of Section 13-5n-16w.

Long Beach

Shell Oil Company is preparing to drill W.M.S.R. No. 1, a 5000-foot test, located near the center lines of 21st Street and Cherry Avenue on Section 19-4s-12w.

NORTHERN CALIFORNIA

New Pool Gas Discovery

On an open hole test of the interval 5293-5313 feet, Great Basins Petroleum Company's Signet-Perrin No. 33-25 flowed in excess of 1500 mcf of gas through a ¼" bean with a flow pressure of 2120 psi. On the test the gas reached the surface in three minutes. Located in the northeast quarter of Section 25-2s-6e in the McMullin Ranch area, the well was drilled on a 1600-acre farm-out from Signet Oil & Gas Company with Great Basins Petroleum having a 75 per cent working interest. Great Basins also have over 25,000 acres under lease surrounding the new field.

Yolo County Discovery Testing

Artnell Company is moving in production equipment to complete Universal Richey et al No. 1 located one mile southeast of the Dunnigan Hills gas field in the southwest quarter of Section 35-11n-1w. The well, an apparent deeper pool discovery of the Arbuckle Sand logged from 8077-8097 feet and a shallow pool extension of the DuBois Sand logged from 3064-3080 feet, was drilled to a total depth of 9088 feet and has 5½" casing cemented at 9088 feet. On a test of the Arbuckle Sand the well flowed 2250 mcf of gas per day through 5/16" bean with a spray of condensate.

Western Gulf Gas Completion

One-half mile north of the Arbuckle Gas Field, Western Gulf Oil Company completed H. L. Charter et al No. 1 flowing 1170 mcf of gas per day through a 15/64" bean with 800 psi flow pressure. The well is producing from the perforated intervals 5511-5484 feet and 5471-5451 feet. Located in the southwest quarter of Section 28-14n-2w, the well was drilled to a total depth of 6781 feet and was plugged back and cemented 5½" casing at 5590 feet.

Walnut Grove Field Test

Brazos Oil and Gas Company is drilling below 2000 feet on its Walnut Grove Unit A No. 2, a proved field well located in the southwest quarter of Section 36-5n-4e in Sacramento County.

Brown Abandons Gas Test

E. C. Brown, Operator, drilled to a total depth of 5085 feet and after running logs abandoned Venice Island No. 1. The test was located in the northwest quarter of Section 27-3n-4e on Venice Island in San Joaquin County, four miles southeast of the River Island Gas Field.

Glenn County Gas Test

Northwest of the Willows Gas Field, Ambassador Oil Company is planning to drill a wildcat test in the Artois area. Location of the test has not been surveyed; however, it will be drilled in Section 28-21n-3w.

Sites Anticline Test

Three miles west of the Corning Gas

Field in Tehama County, C. D. Draucker & Associates of Los Angeles are awaiting contractor bids for a 6000-foot gas test to be drilled in the southwest quarter of Section 21-24n-5w.

Humble Butte County Test

Five miles southwest of the Rancho Capay one-well Gas Field, Humble Oil & Refining Company is grading roads and rig site for James Rolph III et al to be drilled in the southeast quarter of Section 21-22n-1w.

San Joaquin County Test

Great Basins Petroleum Company and Intex Oil Company are completing arrangements to drill a gas test in Section 11-2s-5e. The well will be a 6000-foot Tracy Sand test and is approximately one mile northwest of the Tracy Gas Field.

Walnut Grove Gas Test

Len Owens of Rio Vista, Calif., is preparing rig site for Commings No. 1 to be drilled in the southwest quarter of Section 35-5n-4e.

Glenn County Wildcat Test

Humble Oil & Refining Company is preparing to spud John R. Hulen et al No. 1 located near the center of the southwest quarter of Section 23-18n-1w, approximately three miles south of the Afton Gas Field.

COASTAL AREA

Fillmore Completion For Standard

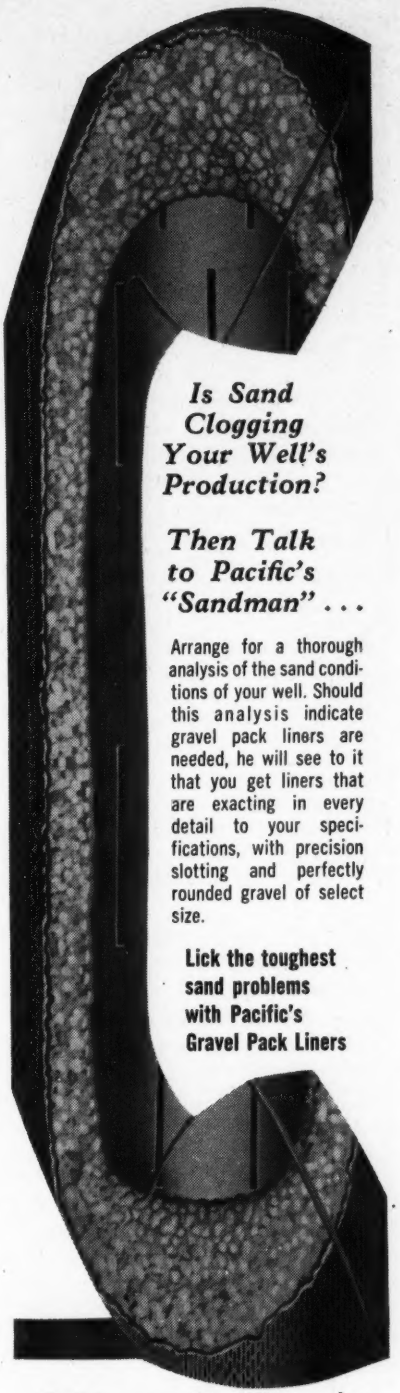
Standard Oil Company of Calif. completed Standard - Mobil - Arundell No. 3 flowing on a gas lift 477 b/d of 30.3 gravity with a 3 per cent cut through an 18/64" bean with pressures of 800/1100 psi from the perforated interval 14,676-14,596 feet. Located in the southeast quarter of Section 19-4n-19w, the well was drilled to a total depth of 14,640 feet and has 5½" casing cemented at 14,598 feet.

Santa Barbara County Test

In the Hollister Ranch area, Frank Walters Oil Co. of Santa Barbara is drilling below 900 feet on Hollister No. 1 located in the northwest quarter of Sections 3-4n-33w. The test is about 500 feet south of the abandoned Dewitt Langford's Hollister No. 1 which logged oil sand at 1300 feet.

Naples Offshore Test

Phillips Petroleum Company is drilling below 1000 feet on Phillips Petroleum-Pauley et al-State 2205 E.T. No. 6. The well is located offshore from Naples in projected Section 23-4n-30w.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Two Offshore Wells Suspended

Phillips Petroleum Company suspended two offshore tests, Nos. 9 and 11, and is drilling below 1000 feet on No. 10 located in projected Section 13-4n-34w. Well No. 9, located in projected Section 13-4n-34w, drilled to a total depth of 4900 feet, and well No. 11 in projected Section 14-4n-34w was suspended at a depth of 3300 feet.

Monterey County Wildcat Test

Verde Enterprises, Operator for Ancora Corp., is drilling below 1300 feet on Gamboa Estate No. 41X-5 located in the northwest quarter of Section 5-21s-8e, approximately five miles south of King City.

Texaco South Mountain Test

In the Bridge area of the South Mountain Field, Texaco Inc., is grading location for Texaco-Union-Yale Richardson No. 2 in the southeast quarter of Section 14-3n-21w.

Santa Maria Area

M. J. M. & M. Oil Company will drill Bradley No. 5-5 located in the northwest quarter of Section 5-9n-33w.

SAN JOAQUIN VALLEY

Fresno County Wildcat Test

Tom Quarles and Associates of Fresno has staked a location for Hammerich-Hopkins No. 1 in the northeast quarter of Section 11-15s-22e. The drill site is approximately twelve miles southeast of the town of Fresno.

Helm Outpost Test

E. B. Hougham, Operator, is drilling below 5000 feet on Summit Lake-Julie No. 65-14 located in the southeast quarter of Section 14-17s-18e. The well will be a 7000-foot test and is about 1800 feet north of the Lanare area production.

Kings County Wildcat for Shell

Shell Oil Company is grading roads and rig site for a wildcat test, Martin No. 22-12, to be drilled in the northwest quarter of Section 12-18s-22e. Location for the test is 3 miles north-

east of the Hanford area where a small amount of production was developed in 1950.

Socony Mobil Oil Company, Inc., completed Noble No. 38X-5 flowing 202 b/d of 31.5 gravity oil cutting 1.4 per cent through an 11/64" bean with pressures of 420/240 psi and 36 mcf of gas. The well is located in the southwest quarter of Section 5-17s-18e and was drilled to a total depth of 7000 feet and redrilled to 6900 feet. 7" casing is cemented at 6792 feet.

Mountain View Recompletion

Dolley, Morton and Dolley recompleted Nance No. 1 flowing from the Santa Margarita at 350 b/d clean oil through an 18/64" bean with pressures of 405/750 psi. Originally completed by Jergins Oil Co. in 1934, Dolley, Morton & Dolley redrilled and deepened the well to 5950 feet and cemented 5½" casing at 5948 feet. Casing was gun perforated from 5858-5873 feet and 5880-5895 feet. The well is located in the southwest quarter of Section 30-30s-29e.

McVan Field Completion

Triple F Oil Company completed Government No. 5 pumping 50 b/d of 13.4 gravity oil cutting 0.1 per cent from a total depth of 1297 feet. 8⅝" casing is cemented at 1216 feet and a 6⅝" gravel packed liner landed at 1297 feet. Location of the well is in the northwest quarter of Section 14-27s-27e.

Trico Oil and Gas Company has drilled well No. 35-1, an easterly offset located in the northwest quarter of Section 14-27s-27e, to a total depth of 1244 feet and is running 8⅝" casing.

Two Helm-Lenare Completions

R. B. Montgomery, Operator, completed Goyne-Rheem-Hawn No. 38X-24 flowing 95 b/d of 35 gravity oil cutting 1.3 per cent. Flow was from the perforated interval 7041-7048 feet through 7/64" bean with pressures of 1035/340 psi. Located in the southwest quarter of Section 24-17s-18e, the well reached a total depth of 7450 feet and cemented 5½" casing at 7204 feet. R. B. Montgomery, Operator, is preparing to spud Goyne-Rheem-Hawn No. 48X-24, a westerly offset to No. 38X-24, located in the northwest quarter of Section 24-17s-18e.

Richfield Drills Lakeside Test

Richfield Oil Corp. is drilling below 4000 feet on KCL-O No. 43-14 located in the northwest quarter of Section 14-31s-26e. The well will be a 10,500-foot test and is approximately 1¾ miles south of Tidewater Oil Company's Lakeside production.

Paloma Completion

The Superior Oil Company completed KCL No. 72X-10 flowing 70 b/d of 48.0 gravity oil with a cut of 10 per cent through a 48/64" bean. Location of the completion is in the northeast quarter of Section 10-32s-26e. The well was drilled to a total depth of 10,020 feet and cemented 7" casing at 9936 feet.

Garrison City Gas Completion

Carr and Wrath completed Mitchel No. F-2-5 flowing 775 mcf of gas per day through a ⅛" bean with flow pressures of 1770/1808 psi. On a test through a 3/16" bean, flow was 1448 mcf of gas with pressures of 1770/1808 psi. Shut in pressures were 1814/1814 psi. Located in the northeast quarter section 5-28s-24e, the well was drilled to a total depth of 6050 feet and cemented 5½" casing at 4520 feet. Flow is from the Mulinia Sand, perforated from 4461-4472 feet.

Two Belgian Anticline Completions

Two outpost wells were completed in the Belgian Anticline Field. The Ohio Oil Company recompleted F. E. Smith No. 2-A flowing 555 b/d of 35.0 gravity oil with a cut of 2 per cent and 147 mcf of gas. Flow was through a ½" bean with 115 psi flow pressure. Located in the northeast quarter of Section 23-30s-21e, the well was first completed in 1954 at a total depth of 6000 feet flowing 832 b/d of 32 gravity clean oil. Present total depth of the well is 6472 feet and redrilled directionally to 6457 feet. 5½" casing is cemented at 6457 feet and gun perforated at three spots within the interval 6413-6341 feet.

Shell Oil Company completed P.M.L. No. 47-14 flowing 250 b/d clean oil through a 14/64" bean with pressures of 1170/140 psi and 439 mcf of gas. Total depth of the well is 6904 feet with 5½" casing cemented at 6590 feet. Casing is gun perforated from 6416-6447 and 6457-6503 feet. The well is located in the southwest quarter of Section 14-30s-21e.

OTHER AREAS

Alaska

In the Cape Yakataga area, Richfield Oil Corp. drilled to a total depth of 14,700 feet and has run casing. Details on the casing have not been released. The test is located in the southwest quarter of Section 34-20s-14e.

Both of the Standard Company of Calif. and Richfield Oil Corp.'s tests on the Kenai Peninsula are trying to recover drill pipe. Swanson River Unit No. 32-10 located in Section 10-8n-9w is fishing with the bottom of the hole at 12,029 feet, and Swanson River Unit No. 14-27 in Section 27-8n-9w with a total depth of 11,329 feet and a redrilled depth of 11,229 feet, is also fishing.

In the Soldotna Creek area, Standard Oil Company of Calif. and Richfield Oil Corp. are drilling below 10,710 feet on Soldotna Creek Unit No. 32-4. The test is located in the northeast quarter of Section 4-7n-9w.

Colorado

Kerr-McGee Oil Industries has staked location for a San Miguel County wildcat test in the northeast quarter of Section 11-43n-11w. The well, Placerville No. 1, will be an 8500-foot Mississippiian test.

Gulf Oil Company is preparing to test its Rio Blanco County outpost, Dragon Trail-Government No. 1, at a total depth of 2925 feet. 4½" casing is cemented at 2563 feet. The well flowed 1140 mcf of gas per day from approximately 2800 feet before cementing casing. The test is located in the southeast quarter of Section 16-2s-12w about two miles northeast of production. Top of the Mancos was logged at 2552 feet.

Arizona

Texas Pacific Coal and Oil Company has staked location for two outpost tests in the Dry Mesa area. Navajo No. 138-3 will be drilled in the southeast quarter of Section 2-40n-28e, and Navajo No. 138-4 in the northeast quarter of Section 11-40s-28e, in Apache County. Both will be 6000-foot tests.

Texaco Inc., is preparing to test Navajo No. Z-1 after drilling to a total depth of 6988 feet and cementing 5½" casing at 6900 feet. Located in the southwest quarter of Section 36-41n-30e near Bita Peak in Apache County, two separate intervals were

tested before cementing casing, resulting in good flow of gas reported to be 6 per cent helium.

Nevada

Charles Beyerbach of Porterville, Calif., is drilling a shallow test, Beyerbach No. 1, in Section 11-27n-52e in Eureka County. Cable tools are being used and the test will be drilled to about 500 feet.

Churchill Drilling Company drilled to a total depth of 6500 feet on Reggie No. 1 and after running logs will cement a string of 5½" casing on bottom. The well is located 3 miles south of the town of Fallon in the northeast quarter of Section 13-18n-28e.

New Mexico

El Paso Natural Gas Company completed Rincon No. 127 as a dual completion flowing 1599 mcf of gas per day from the Mesaverde interval 5500-5328 feet and 4717 mcf of gas per day from the Dakota interval 7586-7364 feet. Located in the northeast quarter of Section 28-27n-6w in Rio Arriba County, the well was drilled to a total depth of 7700 feet, and has 7" casing cemented at 7283 feet and a 5" liner cemented at 7698 feet.

Redfern and Herd completed Ohio No. 1 flowing 6720 mcf of gas per day from the Dakota perforations 6272-6090 feet. Top of the Dakota was logged at 6090 feet. The completion is located in the northwest quarter of Section 22-28n-11w in San Juan County. Drilled to a total depth of 6320 feet, 4½" casing is cemented at 6318 feet.

Texas National Petroleum Company has staked a location for Government No. 1 in the northwest quarter of Section 1-25n-9w in San Juan County. The well will be a 6700-foot Gallup-Dakota test and is five miles southeast of the Angeles Peak-Gallup Production.

Oregon

Reserve Oil and Gas Company is drilling below 3000 feet on Roy L. and G. Bruer No. 1 located in the northeast quarter of Section 31-6s-4w. The test is nine miles northwest of the town of Salem in Polk County, and will be drilled to 7000 feet.

Utah

Belco Petroleum Company abandoned its northwest Lisbon wildcat, State No. 1, at a total depth of 10,636 feet in Cambrian. Topping the Mississippian at 9794, the well was tested continuously from 9813-10,636 feet, recovery being a small amount of gas and salt water. The test was located in the northeast quarter of Section 32-29½s-24e in San Juan County, two miles northwest of Pure Oil Company's northwest Lisbon discovery.

Belco Petroleum Company has surveyed in location for a Grand County outpost test of the San Arroyo Field. The test, San Arroyo-Government No. 1, is located in the southeast quarter of Section 10-16s-25e and will be a 5800-foot Entrada test.

Wyoming

Gulf Oil Corp. completed Chorney-State No. 3, a northern extension of the Patrick Draw Field, flowing 1190 b/d clean oil through a 24/64" bean with pressures of 450/600 psi from the Almond, topped at 4935 feet. Located in the northeast quarter of Section 36-19n-33w in Sweetwater County, the well was drilled to a total depth of 5002 feet and plugged to 4963 feet. 5½" casing was cemented at 4998 feet and a notch cut at 4953 feet.

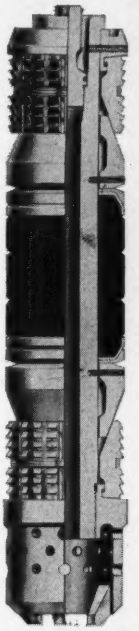
Petroleum, Inc., is grading rig site for a 7100-foot Morrison test west of the Twenty Mile Hill Field in Natrona County. The test, Government No. 1, is located in the northeast quarter of Section 34-37n-79w and is two miles northwest of production.

Texaco Inc., has staked a location for Government-Harris No. 1 in the northeast quarter of Section 2-36n-79w. Location for the test is ½ mile west of the Davis Oil Company discovery and will test the Third Frontier with a proposed depth of 6000 feet.

Shell Oil Company has spudded Williams No. 14-11 located in the southwest quarter of Section 11-48n-69w in Campbell County. Shell's location is to the northwest of the Kewanee Oil Company's discovery well, Norman No. 1. Shell will also drill Williams No. 14-15, a westerly extension in the northeast quarter of Section 15-48n-69w. Kewanee Oil Company's Norman No. 1 pumped 450 b/d from the perforated interval 8865-8838 feet.

J. M. Huber Corp. has staked location for Government-Sanford No. 1 in the southwest quarter of Section 33-32n-84w in Natrona County. The well will be a 7600-foot Morrison test and is north of the production at Poison Springs Creek Field.

SHORT, COMPACT, LESS TO DRILL UP



TYPE BC OTIS WIRE LINE BRIDGE PLUG

- Small O.D. Offers Ease of Running
- Sets With Any Pressure Setting Tool

The Type BC Otis Wire Line Bridge Plug is designed to take the guesswork out of plugging, yet it costs you no more than an ordinary plug. It's short and compact — less to drill up — and has an unusually small O.D. for ease of running. The Type BC has been successfully run on many occasions where other plugs failed to get down. And a feature you will particularly like is that the Type BC Otis Bridge Plug covers a wider range of casing weights than any other plug available today. This feature alone has saved many times the cost of a plug where accurate casing weight records were not available.

Available From All Electric Line Service Companies — Stocked at 247 Field Locations. Not only are Otis Wire Line Bridge Plugs available through any electric line service company, but stocks are maintained at 247 different field storage locations so that you can set an Otis plug whenever you need it—wherever you need it. And Otis bridge plugs can be set on any type of pressure setting tool. So the next time you need a bridge plug to prevent movement of fluid or gas from either direction in the casing, or to plug and abandon — play it safe — specify an Otis Wire Line Bridge Plug.

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THIS LAUGH OFF!!

"Father, did Edison make the first talking machine?"

"No, my son, God made the first talking machine, but Edison the first one that could be shut off."

"What a sap to let a man sell you a dead horse for $10.00."

"Yeah, well I sold it for $100.00."

"How?"

"I raffled him off, sold 100 tickets at a dollar apiece."

"What did the winner say?"

"He made an awful fuss, so I gave his dollar back to him."

The little woman was driving her husband in a road where three men were working on telephone wires. As she approached, they were ascending the poles. "Look at those fools climb," she exclaimed. "You'd think I had never driven an automobile before."

A woman tourist posed for a snapshot in front of the fallen pillars of an ancient temple in Greece. "Don't get the car in the picture," she warned, "or my husband will think I ran into the place."

"My friend," said the missionary, "are you traveling the straight and narrow path?"

In the silence the man handed over his card. It read: "Signor Ballancio, Tightrope Walker."

A pink elephant, a green kangaroo and two yellow snakes strolled up to the bar.

"You're a little early, boys," said the bartender, "he ain't here, yet."

Daughter of first film star: "How do you like your new father?"

Daughter of second film star: "Oh, he's very nice."

Daughter of first film star: "Yes, isn't he? We had him last year."

"I had to change my seat several times at the movies."

"Gracious. Did a man get fresh?"

"Well, finally."

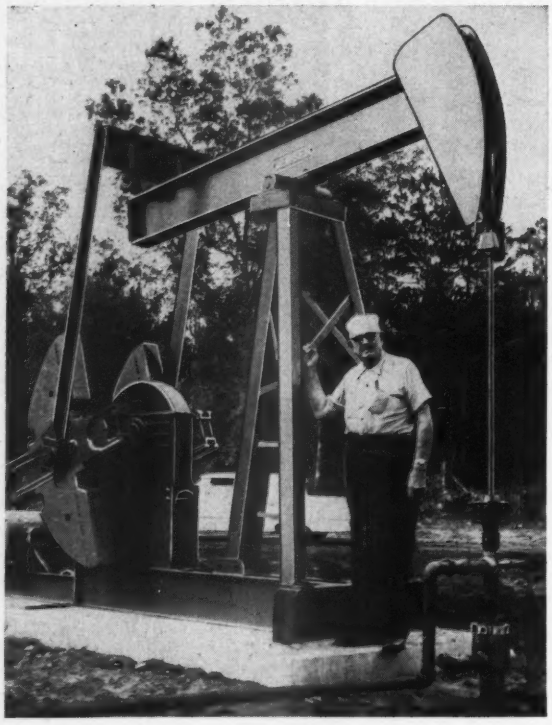
Wife: "You don't love me any more. When you see me crying now you don't ask me why."

Husband: "I'm awfully sorry, my dear, but these questions have already cost me an awful lot of money.".

Mrs. Jones: "My husband won a thousand dollars at poker the other night and he split with me."

Neighbor: "You mean he gave you half!"

Mrs. Jones: "No. He took his thousand and left."



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Kick around almost any oil field just a little and you'll run across a Jensen—either man or machine.

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JENSEN Rotary JACKS are making friends of producers everywhere . . . because they prove more profitable.

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JENSEN JACKS

Here's the answer for a truly efficient, all-purpose bridge plug – one so simply constructed, with no moving parts, that it will not fail mechanically – so positive in sealing action that you get a leak-proof seal under hydrostatic pressures as high as 13,000 psi – yet so versatile it will successfully accomplish the most difficult plugging operations as well as the easiest.

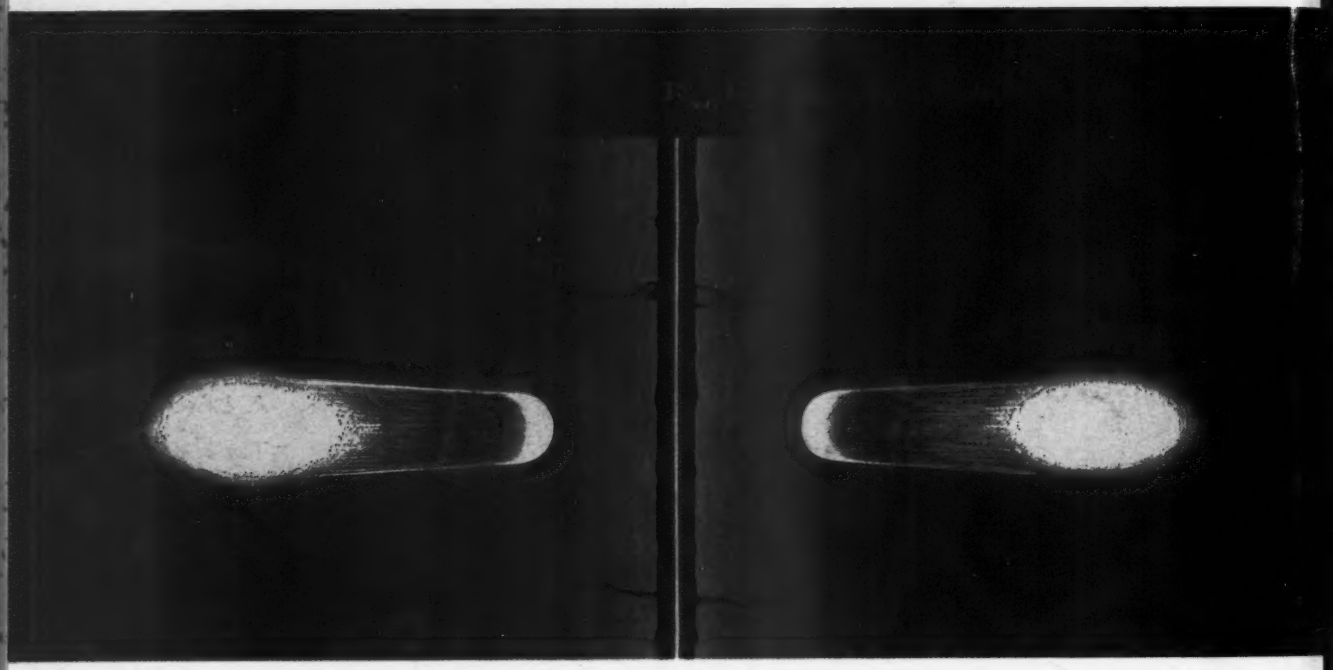
The McCullough Bridge Plug is an explosive-expansion plug made of drillable aluminum. It is set at the desired location by the power of expanding gases from within the plug. On permanent installations it will last as long as the pipe in which it is set. It is ideal for temporary plugging operations as it drills out quickly and easily with a rotary bit.

TAKE A LOOK AT THESE FEATURES

- Simple, one-piece, all-aluminum construction. Slips, reins, rubber packers and all hardened or moving parts that might impede drilling out have been eliminated.
- No slips to hang up or accidentally trip and set the plug while going in the hole.
- Makes a positive leak-proof seal under the heaviest hydrostatic or mechanical loads.
- Easier on the pipe than a slip-type plug.
- Because it's shorter and smaller in diameter it easily passes through tight spots, dog legs, etc., and saves rig time in running, locating and setting.
- Drills out easier and faster.
- Resists corrosion and electrolysis.
- Available in 37 sizes from 1¾" OD to 10½" OD for tubing, drill pipe, casing and in open hole in hard formations.

The New Schlumberger Deep Induction Log

reaches twice as deep to give twice the contrast between water and oil



Engineered to overcome deep invasion, the new Schlumberger Deep Induction Log retains all the advantages of the Induction-Electrical Log . . . symmetrical response, thin bed definition, detail for correlation, simultaneous recording with 16″ SN and SP . . . *plus* an investigation twice as deep which gives twice the contrast between water and oil.

Your Schlumberger engineer will be glad to explain this new service in detail. It's another product of Schlumberger research and engineering to meet the challenge for greater efficiency in oil finding.

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